

AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture

AGRICULTURE IS THE MOST HEALTHFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON

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April.

' Below me trees unnumbered rise,
Beautiful in various dyes:
The gloomy pine, the poplar blue,
The yellow beech, the sable yew,
The slender fir, that taper grows,
The sturdy oak with broad-spread boughs,
And beyond the purple grove,
Haunt of Phillis, queen of love!
Gaudy as the opening dawn
Lies a long and level lawn."—DYER.

Why do we not see the farm house more frequently graced with trees, and with a bit of lawn in front to welcome the guest with its velvety turf, and to refresh the eye of the traveller as he passes? We know there has been extensive tree-planting for the past eight or ten years, and that the nursery business was never so brisk and lively in this country as in the last decade. Not only have our own establishments produced largely, but foreign nurseries have sent us trees by the million, ordered by dealers here, and in many instances by gentlemen travelling in Europe, who desire the best of everything for their fruit yards and ornamental grounds. But if we look at the present location of these trees, we shall find them mainly in cities and villages, and in their immediate suburbs. Among this class of our people tree planting has become popularized, and there are a multitude of charming rural houses near all our northern cities, with grounds well laid out and planted, to which every passing year will add new attractions for a generation to come. Even in villages, upon half-acre homesteads, a multitude of beautiful and useful things have been gathered, that one ignorant of the mysteries of horticulture, could hardly suppose possible. The dwellers in these tasteful houses have flowers and fruits of their own raising for nine months in the year, shade the live long summer, and shelter that breaks the violence and terror of the winter winds. There is thus kept up a beautiful com-

munion of the family with Nature, which is essential to the highest happiness and usefulness of the race.

But as we recede from these great social centers, the evidences of horticultural taste are more and more wanting. We know, indeed, that there are exceptions, farmers' homes that are as perfect models of good taste as any thing that can be found in the country. They are built and adorned with the profits of legitimate farming, are within the means of their owner, and are the outgrowth of a taste and mental culture developed upon the farm. The trees and shrubbery are well selected for the climate, and well planted, the lawn is ample enough, and yet in keeping with the size of the farm and the means of the owner. But still such homes are rare exceptions in the country. There is no generous enthusiasm for tree planting among the great mass of our farming population, and even our readers, apt scholars as they are, and rapidly improving in their rural tastes, are not quite up to the standard. There is many a farm long cultivated, where there is no orchard, no fruit yard, and not even a solitary shade-tree. There are many others where the fields are well tilled, and the fruit is abundant, that have still no adornments from the trees of the forest. Every approach to the house is without shade or ornament, and there is hardly a fruit tree visible.

And this neglect of planting is not owing generally to any want of appreciation or desire for tasteful houses. Let any one of these careless farmers pass a neighbor's house that has appropriate surroundings of trees, shrubs, and flowers, and he can not refrain from expressing his gratification. He may know nothing of the laws of esthetics, and yet a pleasing impression is made upon his mind by every individual object in the plantation, and by the general arrangement of the whole. A well grown elm, or maple in good foliage, fills every beholder with pleasing emotions. The form, the color, the shade are all delightful, and leave pleasant memories behind when summer is gone. The wide spreading oak in the meadow is often sought by the farmer, and his sons, and workmen, during the labors of the hay and the grain harvests. It brings no pecuniary gains, yea, is a positive tax upon the soil, spoiling all that it covers for his crops, and yet he would sooner lose his best cow, than have it cut down. It is a beautiful object in the landscape, he loves to look up into its green boughs, and hear the rustling of its leaves in the summer breeze. It redeems the scene of his labors from the grossness of mere utility. One thing, at least, is loved not for its pecuniary value, but for what it is in itself, an object of taste.

And yet a lover of trees as he is, he did not plant this old oak in the meadow, and he has never planted a tree for shade or ornament by the road side, or around his dwelling. He has often wished some full grown monarch of the forest could be taken up, and put down by his door, but that was

impracticable. He has often thought of planting saplings, and been tempted by their clean trunks and thrifty limbs, but just as often has thought that he might not stay more than another year in his present location. He has felt the emigration fever, and it is only owing to untoward circumstances that he has not long since sought a new home. This unsettled disposition, which affects more or less all classes of our farming population, especially perhaps in eastern sections, is the secret, we imagine, of our neglected road-sides and unadorned homesteads.

It was not so with the early settlers in the older states. They took possession of the wilderness, and expected that when they had redeemed it, it would be a possession to them and to their children forever. They laid out in the center of the town a broad avenue, and planted it with trees, as well as the road-side, around their own houses. No one can visit these old towns, which are found all the way up the valleys of the Connecticut, and of the Hudson, and at almost all points settled a hundred years ago, and behold the long avenues of elms and maples, without a feeling of veneration for the men who planted them. The sons should emulate the example of the fathers, and like them plant trees for future generations.

Nor should we look at this improvement merely as a matter of taste. Admitting that your present location is not a permanent home, and that you will sell out within a few years, it is for your interest to plant trees. They are cheap, are easily removed from the nursery or forest, occupy no valuable room, and when once established add beauty and value to your farm without your thought or labor. You can do nothing at so small cost, so likely to enhance its value. Your best purchaser, five or ten years hence, is likely to come from the city, with whom such an adjunct to your farm would be a chief attraction. The taste for rural life is growing more and more strong in cities, and will increase as the follies and extravagancies of fashion are multiplied. The retiring merchant, or professional man can not wait to grow his own trees. He can build his house, and lay out his grounds, and plant his shrubs and flowers in a year; but trees are the work of time. These are indispensable to his cultivated tastes, and the essential condition of his location in the country. He can sooner make him a tasteful home in the uncleared forest than upon a treeless farm. Whatever then your future home may be, tilling the old homestead or going hence, make the most of it as a home of intelligence and taste, while you remain. Let the passing traveller see that

"Hence every gale
Breaks odors, every zephyr from his wings
Wafting new fragrance; borne from trees, from shrubs,
From deep carnations, from the blushing rose,
From every flower and aromatic herb,
In grateful mixtures. Hence ambrosial fruits
Yield their delicious flavors."

Calendar of Operations for April 1850

[We note down sundry kinds of work to be done during the month, not so much to afford instruction to practical men, as to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 38° to 45°; but will be equally applicable to points further North and South by making due allowance for each degree of latitude, that is, earlier for the South, later for the North.]

EXPLANATIONS.—*f* indicates the first; *m* the middle; and *l* the last of the month.—Doubling the letters thus: *ff*, or *mm*, or *ll*, gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signifies that the work may be done in either or in both periods indicated; thus, work marked *fm*, indicates that it is to be attended to from the first to the middle of the month.]

Farm.

April is no leisure month for the farmer. The plows and harrows are at work, manure is wanted in the fields, fences are not yet cattle proof. Early crops require putting in, and the farm stock need much care at this their season of increase.

If not promptly and closely pursued now, the work of the whole season will be delayed, and there will be the unpleasant necessity of being driven by work, rather than the pleasure of driving it.

It is important too that work be well done. If a piece of land is half plowed, no after labor can fully atone for it, although even in hoed crops, while nothing can be done for the grain. Undertake to cultivate no more than can be well put in and thoroughly tilled. If the farm contains more land than can be properly managed, turn out a portion to pasture, and till the rest.

Bees—See Apiary.

Buildings—This is house-cleaning month in many places. Full directions for the women folks are given by Anna Hope on a subsequent page. Let the men or boys assist about the fences and out buildings, cleansing and painting or whitewashing, to give them a neat, healthy, and attractive look.

Cattle—Do not turn off too early. In this latitude they will require feeding nearly through this month if not longer. Keep from tramping up mowing grounds. Cows about calving need especial care and close watching. Oxen are now performing heavy work; feed them accordingly.

Cellars—If not previously attended to cleanse from filth, and accumulation of small roots, garbage, etc., and whitewash the walls and overhead, ventilating freely.

Clover—If not sown with Winter grain last month, attend to it, *ff*. Sow, *ll*, with Spring grain.

Corn—Manure and plow grounds for planting next month. Provide and test seed previous to use.

Door Yards—Clean up the Winter accumulations of chips and dirt, adding the latter to the manure heap.

Drain wet lands, *ff*, *mm*, *ll*.

Fences—Make new and repair the old, *ff*, *m*. Clear stones from meadows and put them into permanent line or road fences. Plant hedges, *f*, *m*, *l*, as frost and dryness will admit. Do not forget to replace those unhandy bars with convenient gates—they can be made under cover during wet weather.

Grain—Sow Spring wheat and rye, *f*, to *m*, oats, barley and peas, *m*, to *l*. Allow no animals to feed upon the Winter grain fields. Bare spots may be resown with Spring grain, hoeing or harrowing it in.

Hedge Rows along fences should now be cleared up, that the plow or mowing machine may make clean work.

Horses—Attend to mares with foal, giving them ample space at night. Have working teams of horses and mules in good condition for heavy labor.

Lucerne—Sow, *m*, *l*.

Manures—Cart out and drop in heaps or spread on lands as fast as it can be turned under. Heaps previously carted to the fields may be forked over or turned, *ff*, breaking up finely. An addition of muck well worked in will improve the quality and add to the quantity. Cover with muck, soil, or plaster to retain the ammonia. Look well to every manufactory and allow nothing to go to waste. Wash water, chamber slops, etc., are too valuable to throw away. A vat or a muck heap may be provided to receive them.

Meadows—Keep well fenced and do not permit stock of any kind to trample over or feed off. With a "maul," scatter any cattle droppings, pick up and cart off loose stones, and sow grass seed upon any vacant spots.

Plowing is one of the chief operations of April, and is too slightly attended to. See article elsewhere.

Poultry—Set hens, *ff*, for early chickens, and feed the young with care during the first few weeks. Give cracked corn as soon as chickens can swallow it. Read articles in the February and March numbers, also on a following page. Cleanse the houses thoroughly, using the manure for corn, or in the garden. Whitewash about the roosts and dust with plaster.

Potatoes—Plant early ones, *m*, *l*, selecting good market varieties not subject to rot. Try, say 10 bushels of coarse salt spread over an acre of land at planting time, and note the results.

Root Crops—Prepare the ground for onions and carrots by heavy manuring and deep plowing, *f*, *m*. They may be sown, *ll*. Read Prize article on "Onion Growing," in last No. Carrots may be sown, *ll*. If the Winter supply failed too early this season, put in more for the coming year. Cattle long for green or succulent food in the Spring which is best provided for by a good supply of carrots and turnips.

Sheep are now dropping early lambs and need warm shelter at night. Keep separate from other stock and well fed. Give salt once a week.

Swine are also increasing in numbers, if proper care has been exercised. Keep charcoal and ashes accessible to them and give a little animal food which will frequently save the offspring from being eaten. The mother should have plenty of warm liquid food, and be kept from other animals. Do not neglect their manure making apartments.

Sugar Cane—Prepare ground for next month's planting of the Chinese. Read article in the present Agriculturist on raising the Southern Cane.

Timothy—Sow, *ll*, with Spring grain, and on bare spots of old meadows.

Tools, wagons, gear, harnesses, etc., etc., should be provided at once and put in good working order. Some of the newer tools are real improvements upon the old, and well worthy of adoption. Throw away the old if twice as much labor can be done with the new, but be not too hasty to purchase every claimed improvement without trial.

Trees—Set out for shade and fruit along the roads and lanes and about the yards. A shade tree near the house may very properly be a well trained cherry tree, which is ornamental at two seasons of the year at least. We have seen places improved very much by a few such trees set out by the dwelling. Standard pears are also desirable.

Orchard and Nursery.

This is emphatically a tree planting month, both in orchard and nursery. Spring is usually the best season in which to plant all kinds of trees, and April is the best month of Spring, except for Evergreens, which do better planted in May. Early planting is desirable that the earth may become well settled about the roots, and the tree commence its growth before a dry season comes on.

Attending to sales, taking up and resetting young stock, grafting, plowing among and otherwise caring for the smaller trees will fully occupy the nurseryman's time. To facilitate his labors as much as possible, a good assortment of the various trees should be taken up and their roots heeled in or covered, near of access, from which an order can soon be filled. Mark the varieties by labels and division stakes.

In procuring trees for an orchard, go yourself, if possible and select, and see to the taking up which will frequently secure to you better trees than when it is left to nurserymen, who are anxious to dispose of all kinds.

Old trees that were cleared from rough bark and moss, and washed with soapuds last month, now need something for the roots to feed upon, especially if the ground has been in sod for many years. Better plow it up after manuring heavily, and plant potatoes upon the ground that it may receive the benefit of a hoeing. Many of the old trees will be greatly improved by grafting, and the first days of this month are the appropriate season for this operation.

Dwarf Trees—Plant sparingly. A few selected varieties of Pears may be set out, but except for garden culture, standards will usually give the best satisfaction in following years.

Figs—Plant, layer and strike cuttings, *f*, *m*.

Fruit Trees—Plant apricots, apples, cherries, nectarines, peaches, pears, plums, and quinces, *ff*, *m*. See that they are well taken up with all the fibers possible, exposed as little as may be to sun and drying winds, and replanted at the same depth as originally growing, in broad holes, mixing in a moderate amount of compost.

Grafting—Perform, *ff*, *m*, commencing with the cherry. See full directions with illustrations on a following page.

Hedge Plants—Sow seed for, *ff*, *m*. Head back plants that are to grow another year in the nursery.

Inarching may be done, *f*, *m*, on deciduous, and, *ll*, on evergreen trees.

Insects—Search for borers among apple and peach trees, *ff*. Destroy all cocoons in the branches, or under the rough bark of the old trees.

Manure nursery grounds heavily before planting, so that a crop of trees may be grown without further additions. Land which is already planted and not in good heart, may receive a dressing by wheeling and spading in a good coating between the rows. Spread a good quantity for some distance around the trunks of orchard trees—say as far as the branches extend.

Pack in a thorough manner trees that are to be sent to a distance. Especially should the roots be well protected with moss or moistened chaff, and covered with bags or mats. A well packed bundle is illustrated on page 117 of last volume.

Planting and Transplanting generally—Commence as early in the season as the ground can be worked. Other things being equal, early planted deciduous trees and shrubs usually do much better than those set out later in the season. Let the proposed orchard be set out, *ff*, *m*, and put out the seedling and other stocks in nursery rows.

Plow the orchard or dig around the trees, *f*, *m*. Nursery rows require early plowing, turning the furrows from the trees.

Plums—Examine for black warts, cutting them out where found.

Prune lightly this month. Where it must be done, coat with grafting wax or gum shellac dissolved in alcohol to the consistence of thick molasses.

Scions must be cut at once, if not previously secured. The buds are already swelling.

Seeds—If any seeds of apple, pear, or other fruits, or the hard shelled nuts of forest trees are still in boxes, plant them carefully, *ff*.

Shrubs—Plant deciduous, *ff*, *m*.

Stools—Dig about and layer those kept to propagate from. The layers of last year may now be removed if well rooted.

Stocks—Plant out as early as possible, that they may get a good hold before dry weather comes on.

Trench ground for Spring planting. It can be done now much better than when covered with trees.

Vines—Plant, *ff*, *m*, both roots and cuttings.

Kitchen and Fruit Garden.

The gardener will be fully occupied this month in preparing the seed beds and putting in the earlier sorts. Where the ground has been trenched in previous years, the work may be commenced much sooner than when there is no such provision for disposing of the surface water. Too early planting in compact soils is of no advantage, but rather delays the maturity of vegetables. Rapid growth is necessary to secure the best quality of such plants, making them more tender and of higher flavor. Let the seed bed be deep, mellow and warm.

Asparagus—Uncover old beds, dress with manure, and fork over, *ff*. Sow seed for new beds, *m*, *l*.

Bean poles and Pea Brush, procure at once if not already prepared.

Beets—Sow, *ll*, for early crops. For Winter use, next month will answer better.

Blackberries—Set out, *ff*, *m*.

Borecole, Broccoli and Kale—Sow, *ll*.

Cabbage and Cauliflower—Plant from hot beds and cold frames, *ll*, if warm settled weather. Sow more seed. Do not use hog manure.

Capsicum—Sow, *ll*.

Carrots—Sow, *m*, *l*, in ground trenched and well manured.

Celery—Sow, *ll*.

Cold Frames—Ventilate well, and take out hardy plants for early use. Put in seeds for future transplanting.

Cucumbers, Melons and Squashes—Plant, *ll*, if soil be sufficiently warm and dry.

Currants and Gooseberries—Plant cuttings and rooted bushes, *f*, *m*, if the ground be in working order.

Drain moist lands—This is the only process that will secure a good garden in some locations.

Egg Plants—Sow seed, *ll*. Hot bed plants will do better where they are, till next month.

Fences—Keep in repair always.

Figs—Remove covering, *f*, *m*.

Fruit Trees—Fill all available space as soon as the ground may be worked.

Garlic—Sow, *m*, *l*.

Graft fruit trees, *ff*, *m*. See article on a following page.

Grapes—Plant vines and cuttings, *f*, *m*. Remove covering from those protected during Winter.

Herbs—Set out hyssop, thyme, rue, sage, savory, etc., *f*, *m*.

Hops—Plant roots, *f*, *m*.

Hot Beds—Watch carefully, and give plenty of water. Raise the sash each day. New beds can still be made and sown, *ff*.

Horse Radish—Divide and reset roots, *ff*, *m*.

Kohl Rabi—Sow, *m*, *l*, for early use.

Leeks—Sow, *f*, *m*, *l*.

Lettuce—Sow as soon as the ground can be worked, and follow at intervals of two weeks, till August. Plant from hot-beds, *ll*.

Manure grounds thoroughly, if you wish full returns for your labor. Well rotted manure is desirable for gardens.

Mushroom Beds—Make, *f*, *m*, *l*. See page 262, of vol. XVI, for full directions.

Mustard—Sow at any time after the ground is open, and at intervals for a succession.

Nasturtiums—Sow, m, l.
 Okra—Sow, ll.
 Onions—Sow, m, l, and put out sets or bulbs at the same time. See prize article in last *Agriculturist*.
 Parsley—Sow, f, m, l.
 Parsneps—Sow, f, m, l, on deeply worked rich soil.
 Peas—Sow, f, m, l, to have them in succession. Destroy weevil by scalding. Stick when up a few inches.
 Potatoes—Plant early sorts, f, m. Sow seed from balls last year, l.
 Radishes—Sow at intervals from, ff, to ll, in unoccupied corners, and between beets, vines, etc. for early use. Light sandy soil is best.
 Raspberries—Set out new roots, and uncover buried canes, f, m. Head back, and stake up. Fork in top-dressing of stable manure, ff.
 Rhubarb—Uncover, ff, and fork in manure around roots. Divide and reset for new plants, ff. Plant the Linnaeus variety.
 Saladings—Sow at intervals of 10 or 12 days seeds of plants for salad, as lettuce, endive, cresses, rape, etc.
 Salsafy—Sow, m, l, on trenched ground well manured.
 Sage—Sow seed and divide roots, f, m, l.
 Sea Kale—Sow, f, m.
 Seeds—Test those on hand. Procure new. Make ample provision to raise your own in future. Set out selected Winter vegetables for this purpose, ll.
 Soil—Improve if needed by adding sand to lighten, or clay to make more compact.
 Spinach—Uncover Winter, ff. Sow for successive crops, f, m, l.
 Squashes—Plant distant from other vines, ll.
 Strawberries—Remove covering if neglected till now, ff. Set out new beds, m, l. See article "How to Raise Strawberries," on following page.
 Thyme—Sow, m, l.
 Tomatoes—Sow seed, f, m, l. Take from hot-beds, ll.
 Tools—Clean well and put in place after using. Keep in repair.
 Trench part or all of garden before planting. It will pay.
 Turnips—Sow early growing sorts, f, m, l.

Flower Garden and Lawn.

Transplanting flower roots, shrubs and deciduous trees and preparation of borders, renewing gravel walks with the remaining preparatory work which has been left from last month, will all need attention now. Unless the season is quite forward or the border very warm, few seeds will do well, sown before the latter part of this or the first of the succeeding month.

Annuals—Some of the hardier may very properly be sown, m, ll, especially such as asters, balsams, candytuft, coreopsis, clarkia, cockscomb, escholtzia, hibiscus, larkspur, lavatera, marygold, mignonette, nasturtium, phlox, portulacca, scabious, etc.

Biennials and Perennials—Transplant, f, m, dividing the roots to increase the supply. Sow seed, m, ll. Among these are carnations, pinks, daisies, chrysanthemums, lillies, sweet williams, yuccas, peonies, columbines, hollyhocks, dielytras, etc.

Borders—Prepare, ff, m, for sowing and planting. Dig deep and manure well.

Box and Grass Edgings—Set new and repair old, f, m, l. Trim the old evenly.

Bulbs—Hyacinths, tulips, crown imperials, etc., will remain longer in flower if shaded from the sun. They should show a fine bloom, m, ll.

Carnations—Pot and transplant, ff. Keep well watered, and the surface loose around them.

Dahlias and Gladiolas—Place in boxes, m, ll, for starting. Expose during mild days; take in when cool.

Dielytra—Plant out, m, l. The border is incomplete without it.

Drain all wet grounds if a good garden soil is expected. They may be worked much earlier, and are warmer.

Evergreens—May be planted, m, ll, but better during the early part of May. If other work will prevent planting, do it the latter part of this month rather than not at all.

Frames and Pits—Transplant from them, m, ll, if the weather is sufficiently settled, otherwise ventilate freely.

Gravel—Renew the old and make new walks, f, m.

Hedges—Set deciduous hedge plants, ff, m, and evergreen, m, ll, or later.

Labels for marking the flowers, and stakes and dahlia poles should all be procured at once.

Lawn—Put everything in a neat, attractive order, raking and rolling the turf, sowing seed on bare spots, or re-sodding. Sow new grounds, f, m, the earlier the better.

Top dress with guano, bone-dust or fine manure.

Prune, ff, any vines or shrubs neglected last month.

Petunias and Verbenas—Sow seed, m, l, and set or bed rooted plants, ll.

Roses—Plant, ff, m. Tie pillar and climbing varieties.

Shade Trees—Plant deciduous kinds, ff, m.

Shrubs—Plant, ff, m, the althea, flowering almond, azalea, chionanthus, flowering currant, deutzia, euony-

mous, holly, Japan quince, laburnum, lilac, philadelphus, rose acacia, snowberry, snowball, spiraea, tree peony, weigella, etc.

Vines and Climbers—Plant, ff, m, bignonia, clematis, honeysuckle, ivy, trumpet flower, virginian creeper, wistaria, moneywort, etc.

Green House.

Very little if any artificial heat will be required this month, but the rapidly growing shoots will need abundance of air. Without this they will be weak, and unfit for transplanting to open border. Let the house remain open the whole day when clear and sufficiently mild.

Bedding Plants—Increase stock of verbenas, petunias, geraniums, daisies, pansies, etc., by dividing roots, layering and cuttings. Gradually harden for out door growth.

Bulbs—Give plenty of air and water to those in bloom, and shade from too strong light. Plant out those that have shed their flowers.

Callas—Water freely, keep free from dust and turn to the light.

Camellias—Syringe freely and insert cuttings.

Cuttings—Continue to make new, from well ripened wood. Insert them thickly in prepared soil and plunge the pots in the bark bed for a bottom heat. A bell or other glass placed over them will facilitate their rooting.

Grapes—Vines are in different stages of forwardness according to the heat of the house. Disbud, train up shoots and syringe freely, mixing a little sulphur in the water to prevent mildew.

Head back and pinch in plants with ill shaped heads.

Inarching—Oranges, lemons, limes, etc., may now be inarched. (See full description and illustration of the process, page 184, Vol. XVI.)

Insects—Watch carefully for and destroy as previously recommended.

Mildew—Dust plants and flues with flour of sulphur, where there is any appearance of mildew.

Pot off annuals sown last month.

Seeds—Sow annuals early, for planting in the borders. Vegetables may be forwarded by sowing in pots in the Green-house and afterward transplanting to the garden.

Shifting—Continue to re-pot all whose rapid growth indicates a want of more room. Give fresh earth to others. Water more freely as plants are growing more rapidly.

Hot House and Conservatory.

Less heat will be necessary than during last month; a sufficiency of air is important. A moderate fire must be kept in the evening and during cold windy days. Careful ventilation when the weather is mild will be beneficial. The temperature should range from 60° to 72°. The warmer the weather and the larger the plants, the greater the amount of air required.

Cuttings—Make and treat as in Green-House.

Flowers in Pots—Bring in from the Green-House for blooming.

Fuchsias—Water more freely as they approach the blooming season. Increase the stock by cuttings.

Grapes—Thin bunches of the early forcing; rub off superfluous shoots, and confine branches to wires. Use sulphur to prevent mildew.

Insects increase rapidly this month, if not kept in check. Fumes of tobacco, syringing and hand picking are the destroying agents.

Pines are now setting fruit—Maintain a natural tropical atmosphere by evaporations, to produce dews at night.

Seeds—Sow the different varieties of hot-house plants, to keep up the stock.

Shiftings—A large number of plants will need more room at this season. Shift to larger pots, ff.

Syringe freely towards evening, both to dislodge insects and promote a humid atmosphere.

Water—An increased supply will be necessary, as the plants are now growing rapidly. See that the drainage is perfect.

Apiary in April.

BY M. QUINBY.

If bees are fed in the Spring, care must be taken not to discontinue the feeding too soon as they will then be more likely to starve than if no supplies had been given them. A colony of bees having stores just sufficient to take them through, would be likely to rear but little brood; if through fear of their starving a few pounds of food are given them they are encouraged to undertake the rearing of a large brood. If now further feeding is withheld, and the flowers in consequence of a cold turn of weather, yield nothing—the bees to prevent this brood from perishing, feed all the stores of the previous season; and then without a timely intervention of favorable weather, must starve. It is better to feed moderately and continue it till sure they obtain sufficient from the flowers; which in some seasons is not till white clover appears. A colony that is fed, should be closely watched. It sometimes happens that pillaging bees carry off the food given them, and they starve in consequence. For directions for feeding, see Apiary for

March. It is bad economy to feed by setting refuse or other honey in the open air, for all to partake of promiscuously. The moth worms during this month may be found under the bees nearly every morning, and are easily destroyed. Each female now matured, is capable at a low estimate of producing one hundred others the first generation; these in turn as many more each, through four or five generations in the course of the Summer, when the number multiplies to thousands—an inducement for present action and care on the part of the bee-keeper.... The strength of a colony may be ascertained on a cool morning by turning back the hive far enough to get a view of the cluster of bees; all weak ones should be specially guarded by nearly closing the entrance—allowing only one bee to pass at a time. This, although not a sure preventive, is a great protection against robbing bees, which otherwise are quite certain to find out the weak and defenceless, the first real warm day, and carry off all their stores. Before flowers appear, bees are very restless, and are quite sure to get into mischief. When engaged in pillaging, if the weather is warm, they continue operations till dark. Should they be neglected through the day, take a look at them after sundown, when honest bees should be at home; if at work now, it is out of season, and very suspicious, even for bees, to keep such late hours. This habit of taking what does not belong to them—robbing—"is sure to lead to some bad end," and must be broken up. If the hive being robbed has a queen, and is all right except its weakness; sprinkle some flour on the robbers as they issue from the hive, and see what hive they enter—most likely it will be some thrifty strong stock, whose stand may be exchanged with the weak one. But should the robbers belong to some neighbor, then it will be necessary to carry the hive to some dark cool room or cellar, until several warm days have passed, when it may be returned to its stand. If it could be taken off a mile or two on the first attack of the robbers for a few days, it would be better, as no time would be lost in the house. Graduate the entrance of all the hives proportionate to the bees that are to pass.... All hives that are to be painted, should now receive attention, that they may lose the rank smell of the paint before used.... Do not forget the box for the little wren. He will assist in destroying the worms—will be on the lookout when you are away.... If nothing breaks the force of the prevailing winds; erect a close board fence for the purpose.... In all moderate weather it will be an advantage to allow the sun to shine directly on the hive. It is important to hasten forward the brood at this season, and warmth is needed for the purpose.

Notes on the Culture of the Seeds in Our Distribution List.

[We are, from time to time, giving, in separate articles, descriptions, and frequently illustrations, of the several garden, field and flowering plants embraced in our list for distribution, as well as of many others, and also the mode of culture. As a guide to the time and manner of planting or sowing, etc., we throw together here some brief notes, to be referred to by those not acquainted with all the seeds they have received from us this year.]

☞ The time of sowing or planting given below refers to latitude 41°. Further South the season is of course, earlier, and further North later.

Field Seeds.

No. 1. *White Sugar Beets*—Adapted mainly to feeding stock—Sow about May 1st, or earlier, if the ground be in good condition. For Winter feeding, the latter part of May is better. A deep, rich soil is required. Put in drills 2 feet apart, dropping a seed every 5 inches, and afterwards remove every other plant where all the seeds vegetate. Cover the seed $\frac{1}{2}$ to 1 inch deep.

No. 2. *Improved King Philip Corn*—Plant like other corn. It will mature earlier, and when necessary, may be planted later. No corn should go into the ground before warm, settled weather, even should it be necessary to wait until the first week in June.

No. 3. *Stowell's Sweet Corn*—May be planted in field or garden, as early as the ground will allow. It ripens very slowly, continuing a long time in the milk state, and has hence been called evergreen. To secure pure seed, it must be planted early, and at a distance from other corn. Really pure seed is quite as difficult to be had now as four years ago.

No. 4. *White Poland Oats*—Those who get our packages this year, should plant and preserve the seed with care. Oats of all kinds did so poorly last year, that it was with the greatest difficulty we could get any seed of this kind. Those we send out weigh over 40 pounds to the bushel, but those of this weight are exceedingly scarce the present Spring. It will be worth while to sow our little mail packages in drills, say one foot apart, dropping the grains

three or four inches from each other, and cultivate with the hoe. Sow as early as the ground is ready.

No. 5. *Chinese Sugar Cone*.—If desired for the juice, plant and cultivate in hills, precisely like Indian Corn; or better, perhaps, in drills 3½ to 4 feet apart, dropping the seeds every 2 inches, and when well up, thin out to about 8 inches. If for feeding, put in drills 3 feet apart, dropping seeds every inch. The thicker it grows the smaller and more tender will be the stalks. To be sure of obtaining ripe seed north of latitude 40°, it will be necessary to start a few plants quite early, in boxes or sods, though it will ordinarily ripen in the field as far north as 42° or 43°, if planted before May 15. The main crop should not be planted until about the middle of May or later—or when the weather is settled and the soil warm. Cover the seeds with not more than ½ to ¾ inch of soil.

Nos. 6 and 7. *Ashcroft's Swedish and River's Swedish Stubble Turnips*.—Sow in drills, from the second week in June to July 15th. These varieties mature nearly a month sooner than Ruta-Bagas, and may therefore, be sown later. The plants should have a foot of spare room each, in drills, at least 2 feet apart.

Nos. 68 and 69. *Green and Purple Top Scotch or Bullock Turnips*.—Sow in April or May, like common flat turnips, if for early use, or later for Winter, say any time before August. We know little of these two new varieties. They are highly commended in England, and we have sent out the seeds for trial here, and will be thankful for reports upon them.

No. 70. *Waite's London Purple-Top Swede Turnip*.—Sow from May 15th to June 15th. In England this is said to be quite superior to the common Swede or Ruta-Baga. Not thoroughly tried here yet.

No. 71. *Long White French Turnip*.—Sow in field or garden. It will be well this year to sow a little seed at intervals of two weeks, from May 25 to August 1. In Rhode Island, where it has been grown in perfection, the main crop for feeding is sown during the latter half of June, and for table use in Winter and Spring, from July 1st to August 15th. From our own experience last year, we should advise sowing as soon as the 15th to the 20th of July, for table use. Some that we sowed August 15th, on rather poor soil, grew only to about the diameter of a coffee cup. The early sowed (June 15) grew from 4 to 7 inches in diameter. Sow in drills 2 feet apart, and thin out to 10 or 12 inches when well started, and out of the way of insects.

No. 93. *Hungarian Grass or Millet*.—Usually sown broadcast, from May 10 to June 1, if for seed, and up to July 15th for feeding, or even for fodder. To get a large yield of seed for the first year, sow in drills a foot apart, from 5th to 20th of May, and hoe between the rows once or twice.

No. 94. *Crystal Flint, or Hominy Corn*.—Cultivate in all respects like the common field varieties. The seed being rare, it will be well to keep it at a distance from other kinds, to preserve it entirely pure. It has a beautiful kernel, and promises well, but we must await further trials before fully deciding upon its merits for a general crop.

Vegetable and Garden Seeds.

No. 8. *Daniel O'Rourke Pea*.—Chiefly valuable for being the earliest pea we have. Small size and fair quality. Grows only about 2 feet high. Is ready for picking in about 42 to 45 days from planting. Sow any time when the ground admits, and at several intervals for a succession. Though somewhat dwarfish, it is best to support and train with short brush.

No. 9. *Champion of England Pea*.—Of a greenish color when ripe; of good size and full in the pod, and an excellent cooking pea; good yielder—in short, one of our best peas for a general garden crop. Sow at intervals of 6 to 10 days, from April 1st to June 1st, for a succession. Grows 3 to 4 feet high, and requires brushing.

No. 10. *British Queen Pea*.—Also an excellent pea, similar in size and growth to the Champion, but is of a light color. Some like it better than the Champion, but with us it has proved a poorer yielder, not quite so early, and does not cook quite so well. For a general crop it is second only to the Champion.

No. 11. *Hair's Dwarf Blue Mammoth Pea*.—Grows 2 to 2½ feet in height. Comes late to maturity. Cooks dark purple, but quite rich in flavor. An excellent late pea. Sow in April or early in May.

59. *King of the Marrow Pea*.—A promising new pea, wrinkled, greenish color when ripe, rather smaller than the common Marrow fat, bore well with us last year. Sown May 1st and picking commenced July 25. Grows tall, and requires high brush.

12. *Green Kohl-Rabi*.—Cultivated in all respects like early cabbage. See description in January (p. 4). Must be cooked before full maturity, else it is stringy.

13. *Enfield Market Cabbage*.—Cultivate like any other early cabbage. An early, small, but excellent variety.

14. *Alma Cauliflower*.—Cultivate in all respects like cabbage. It requires moderately cool weather to head well, so that unless started in a hot-bed and planted out May 1st, it should be sown in the open ground, April 15th to May 1st. It frequently only begins to head in September, and then grows rapidly.

15. *Mammoth Cabbage Lettuce*.—Sow at intervals from April 1st, onward, for a succession. Each plant will require 8 or 10 inches square, if on good soil. Cover the seed very lightly. Let a few of the best heads go to seed, to secure a supply for next year.

17. *Red Strap-leaf Turnip*.—A very early kind. Sow in drills as early as the ground will admit of it, and at almost any other time. Two crops may be raised on the same ground, in a single season.

19. *Round Spinach*.—Sow as early as the ground will admit, and later, for greens. Put in drills and cover lightly. For Winter and early Spring use, sow latter part of August or first of September and cover with straw as Winter sets in.

20. *Salsafy, or Vegetable Oyster*.—Sow in drills or rows and cultivate like carrots or parsneps. The tops are small and the drills may be only 10 or 12 inches apart. Thin out to 3 or 4 inches in the row. (See Jan. No. 4.)

21. *Winter Cherry, (Physalis viscosa)*.—The seed will lie on the ground all Winter without injury. It may be sown as early as the ground can be worked. It will often lie without sprouting until the warm weather of June. (See last Vol. p. 245). Be not disappointed if the plants do not appear until the last of June. Sow, however, as early as the ground will allow. It may be well started in a hot-bed, or in a pot to get early fruit, or in a small plot, and transplanted to open ground like cabbage plants or tomatoes. Each plant will need a space of at least 2 or 2½ feet square.

22. *Boston Marrow Squash*.—Plant in hills 6 to 8 feet apart—in May, when the ground is settled and warm. Each plant will cover a large space. The ground between the hills may be used for early lettuce and radishes.

16. *Long Orange Carrot*.—Sow in rows 18 to 20 inches apart, on a deep, rich soil, as soon as the ground is in good order. Thin out the plants in the rows to 6 or 8 inches. Cover the seed not more than ½ inch.

55. *White Globe Onion*.—Sow in 12 inch rows, as early in April as the ground is in good condition. (See onion article last month, p. 69.)

71. *Long W. French Turnip*.—See Field Seeds above.

72. *Brussels Sprouts*.—Cultivate like cabbages, but the plants will require less room, as the heads and leaves are small. The seed may be put in the open ground as soon as it is in condition, or be previously started in a warm bed of earth, or in a hot bed.

73. *Egg Plant*.—Start the seed as early as possible in a warm situation, or in a hot bed, and plant out in May, giving each plant a space fully 1½ feet square, or put one foot apart in 2½ feet rows.

74. *Solid White Celery*.—Often sown in hot-beds the latter part of March, for early use, but does best for a Winter crop sown in open ground the latter part of April, or first of May. Plant in trenches when a few inches high, and draw the earth around the stalks to whiten them about the first of September.

75. *Green Curled Endive, or Chicorie*.—Sow the last of July after early peas or turnips in drills 15 inches apart. Tie up for blanching the first of September, or transplant to a cold frame for Winter use.

76-77. *Musk and Water Melons*.—Plant in hills at least 6 feet apart, as soon in May as the ground becomes warm. If planted too early the seed will rot in the ground. Last year we planted some of the same seed May 1st (rotted by rain); May 12, also rotted; and May 24, which came up and did well.

92. *Okra*.—Sow May 10, in drills 2 feet apart, covering ½ inch. Thin to 10 inches in the row and cultivate as Egg Plants. Gather the green pods for soup, or stews, when 2 to 3 inches long. They are useless when ripe. A favorite for Gumbo Soup.

Flower and Ornamental Seeds.

GENERAL REMARKS.—The flower seeds may be arranged in classes, and the culture of each class described. With the exception of those otherwise noted, they may be sown in this latitude the last week in April or the first week in May, if the soil be warm and dry. However, where the supply of seed is small, and it is desired to be pretty certain of their vegetating, so as to secure an increase of seed for another year, it is usually safer to wait until the middle of May. In the Northern States there was a failure last year, with more than one half of all the flower seeds sown before May 15th. Nearly everything we put in the ground prior to May 20th failed, while from

all the same packages seed sown from May 25th to June 10th, came up promptly, and grew vigorously. In ordinary seasons, early sowing brings an earlier supply of flowers and vegetables. It is usually quite as well to start the seeds in boxes of earth, or in a warm, well-drained situation, and transplant when and where it may be desirable. Cover very lightly.

DWARFISH ANNUALS.

This class includes such plants as grow low, and are mostly adapted to massing or cultivating in groups, though many of them appear well when standing as single specimens. Except for massing, sow in rows or circles, 18 inches apart, and cover lightly—say ½ inch or less.

No. 23. *Mignonette (Reseda Odorata)*.—A branching plant, with an abundance of foliage and small flowers, not very pretty, but very fragrant during the entire season. Height—about 15 inches. Appears best in masses.

No. 28. *Dwarf Rocket Larkspur (Delphinium Ajacis)*.—Height about 18 inches, flowers double; color—white and purple; one of the finest flowers of the garden. Thin to 6 inches.

No. 29. *Double Balsam (Impatiens Balsamina)*.—Very pretty—flowers of various colors on the same plants. The seed is a mixture of several fine sorts. Height—about 15 inches. Succeeds best as single specimens, but may be grouped. No flower garden is complete without it.

No. 30. *Tassel Flower (Cacalia Coccinea)*.—A pretty upright scarlet flower, very like a tassel. Set the plants singly, or they appear prettily when standing in the midst of others lower growing. Height—15 to 18 inches.

No. 31. *Chinese Pink (Dianthus Chinensis)*.—Strictly speaking, a biennial, although blooming the first year from seed, and on this account introduced here. It is devoid of fragrance, but quite attractive with its variegated colors. Height—12 inches.

No. 33. *Portulacac (Spendus, lutea and alba)*.—Low growing and semi-running plants, 2 to 4 inches high, with showy white and red, scarlet and yellow flowers, which open in early morning. They look best in masses or patches of distinct colors.

Nos. 34 and 35. *China and German Asters (Aster Chinensis)*.—Are nearly alike, except that German florists have produced fuller and more quilled flowers. Both are favorites, showing an attractive bloom of every shade, from pure white to deep scarlet, well adapted for massing, or as single specimens, growing about 1 foot high.

No. 40. *Escholtzia (Californica)*.—A conspicuous bright yellow flower, semi-creeping in habit, with fine, delicate foliage; height 6 to 12 inches. Remains long in bloom.

No. 41. *Elegant Clarkia (Clarkia Elegans)*.—A pretty flower from the Rocky Mountains; grows about 15 inches high; in color, white, lilac and pink; quite attractive, and a good massing plant.

No. 48. *Flos Adonis (Adonis Miniata) or Pheasant Eye*.—Of moderate size, with fine foliage and a spike of blood red flowers, shooting up 18 inches to 2 feet in height.

No. 49. *Candy Tuft (Iberis umbellata, amara, etc.)*.—Especially adapted for massing; flowers of white, lilac and purple color, in flat or oval clusters; height—8 to 10 inches.

No. 51. *Phlox (Drummondii)*.—One of the most beautiful of a class of hardy branching flowers; best in masses; about 1 foot high, and runs through the various colors, from white to purple; a favorite where known.

No. 78. *Ageratum (Mexicanum)*.—A somewhat tender plant, with pale blue and white flowers, well suited for bedding. Slips or cuttings, taken in the Fall, make fine plants for Winter culture in the parlor or green-house.

No. 79. *German, 10 weeks stock (Mathiola grandiflora) or Stock-gilly*.—Blooms in spikes late in the season, unless forced for early out-door planting; well adapted for pot culture—one foot high, and quite pretty.

No. 80. *Yellow Hawkweed (Hieracium mutabilis)*.—A fine and rather delicate annual; of low growth and late yellow bloom.

No. 86. *Euphorbia (variegata)*.—A tender annual from Missouri, but very pretty with its showy variegated flowers, blooming late in the season.

No. 87. *Coreopsis (tinctoria)*.—A showy, free-blooming plant, from the Western prairies. Flowers bright yellow, with a dark velvety centre. It grows 1½ to 2 feet high; good for massing.

No. 88. *Globe Amaranth (Gomphrena Globosa)*.—A flower of unfading color, even when plucked, whether white, purple or striped; of 1 foot in height. The seeds vegetate slowly unless scalded for a few moments, or soaked for 24 hours before sowing.

We prefer to plant each variety of the above, and each color even, in separate groups, that the eye may find relief by turning to a new bloom, rather than be confused by a gaudy show of mixed flowers. On this account, bedding or massing is particularly recommended.

To bring out their fine qualities, thin the massing plants to 6 inches, and single specimens one foot to 18 inches apart according as they are branching or erect.

TALLER GROWING ANNUALS.

These are generally similar to the class first described, except that they require more room, and with the exceptions noted below, do best as single specimens.

No. 39. Marvel of Peru, or Four O'clock (*Mirabilis jalapa*) is classed as an annual, although when taken up in the Fall and properly preserved, it is perennial. Stalks large and branching, and 2 to 3 feet high, producing abundance of bell shaped flowers, white, red and striped; opening morning and evening, and blooming during the entire season. They require much room.

46. Mixed Lupins, (*Lupinus albus, luteus, etc.*)—Fine velvety foliage with spikes of white, blue and yellow flowers; height of different varieties 1 to 3 feet. Answers for grouping.

59. Cotton Plant, (*Gossypium arboreum and herbaceum*).—A fine showy flower continuing a long time in bloom. It is chiefly grown in the southern States for its "bolls" or downy seed covering from which cotton cloth is manufactured. Both upland and sea-island are in our distribution. Sow on a warm border the last of April and the seed may ripen before frost. 3 to 4 feet high, with a bloom of reddish color.

27. Cockscomb (*Celosia cristata*).—The varieties we are distributing, are very fine with a solid or comb shaped head. The scarlet and crimson colors are much prettier than the dull yellow. It is best cultivated singly, with a foot of space to each plant—height 1 to 2 feet. Sow as soon as the ground is dry and warm.

37. Zinnia (*elegans*).—In height 1 to 3 feet and somewhat branching, with terminal flowers of scarlet, yellow, orange and white.

50. Schizanthus (*pinnatus, humilis, etc.*)—A rather tender annual 2 to 3 feet in height, blooming from August to October; flowers of purple and yellow in terminal panicles.

81. African Marigold (*Taetes erecta*)—From 2 to 3 feet in height with yellow and orange colored flowers, very double. Answers well for massing.

BIENNIAL AND PERENNIAL PLANTS

Very few of these enter into our distributing list, most people preferring plants which will flower the first season from seed. A few of them are so desirable that we have included them. Those sent out last year should bloom freely this season.

Sow as directed for the annuals.

No. 38. Sweet William (*Dianthus barbatus*)—A pretty common, but universally admired perennial flower, blooming the second and successive years from planting. The different colors of white, lilac, pink and red are pretty in separate plants, and doubly attractive when combined in the same cluster. It grows 10 to 15 inches in height, is very fragrant and easily increased by dividing the roots. Fine for bedding.

42. Fox Glove, (*Digitalis purpurea, lutea, lanata, etc.*) is a singular thimble shaped flower of purple, white, yellow and mottled color, on spikes 2 to 3 feet in height. It is a biennial, sometimes blooming the 3d and 4th years. A showy and very attractive flower, blooming in July and August.

63. Snap-Dragon, (*Antirrhinum majus*)—A perennial described on page 20, January number.

65. Gaillardia (*picta and bicolor*), a perennial, but often blooms in August the first season, when sown early. Flowers large, crimson and yellow, beautifully combined. Rather tender, requiring a slight Winter protection. Height 1 to 2 feet.

These may all be sown at the same time and receive the same treatment as the former classes giving them more room when transplanted the second year.

ANNUAL CLIMBERS.

Our list contains a few hardy climbers well adapted for screens or trellises, and easily cultivated. Sow last of April or first of May, unless otherwise noted.

No. 45. Sweet Pea (*Lathyrus odoratus*)—A moderate climber of about 6 feet in height, with white, red, scarlet, black and variegated flowers. A neat stake, wires or strings are best to train them upon.

25. Mixed Nasturtiums, (*Tropaeolum majus*)—A semi-climbing annual, well fitted for training over stone fences, rock work, etc. Flowers orange, crimson, and intermediate shades. Sow May 1st to 10th on light soil. The green capsules are highly prized by many, for pickling.

33. Cypress Vine (*Ipomoea quamoclit*), one of the finest climbers with delicate feathery foliage and bright red, or scarlet and white tubular shaped flowers. Grows from 10 to 15 or more feet high. See illustrated trellis page 339, last volume. Succeeds best when sown late, say May 10th to 15th. Soaking the seed 24 hours before plant-

ing renders it much more sure. It should have a place in every collection.

47. Morning Glory, (*Convolvulus major*)—A common but pretty climber, often reaching 15 to 20 feet; makes a fine covering for screens or twines around a pole or string, produces abundance of tubular flowers, white, rose, purple and striped; opens very early in the morning. Sow at any time after frost is out in Spring to first of June.

81. Canary Bird Flower (*Tropaeolum peregrinum*) a beautiful climber of rampant growth, with delicate canary colored flowers, with a slight resemblance to little birds, hence its name. Sow April 15th to middle of May, giving plenty of arbor or trellis room. Flowers from July till killed by frost.

82. Thunbergia (*alata*)—A fine climber, fully described and illustrated, page 339, of last volume.

EVERGREEN TREES.

We have introduced two of the finest into our distributing list, both of which may be grown as single specimens, or in hedge-rows as a protection or screen. Minute directions for planting and after treatment are given on p. 113.

90. Norway Spruce (*Abies excelsa*).—A stately and beautiful evergreen tree. Illustrated on page 144, last volume. Sow in April or early in May.

91. Arbor Vitæ (*Thuja occidentalis*).—A slow growing and small sized evergreen tree, much admired both as a single tree or grown in hedges, where it is largely used. Sow as above.

How Cane Sugar is grown and Made. . . . I.

[A large number of our readers have probably little idea of the manner of cultivating and making our common Cane Sugar. Some account of this will not only be interesting to all, but also furnish useful hints to those of our subscribers who live within the cane growing latitudes. We therefore present the following from one of the editors of the *Agriculturist* who has been in Louisiana, since the commencement of the present year. This first chapter was written early in February, but was crowded out last month.—PUB. ED.]

We visited, yesterday, one of the largest and best managed sugar plantations in the vicinity of New-Orleans. This staple crop, is confined to a comparatively small territory. Yet in any other country than this, the soil adapted to cane culture would be thought extensive, for it embraces the larger part of Louisiana, and the regions in the same latitude lying along the Gulf of Mexico, and the streams that empty into it. Though the season is not sufficiently long for the plant to attain its full maturity, and to yield its largest product of sugar, yet under the protection of our tariff, the planters of Louisiana, are able to compete with those of the West India islands, in our markets. Large fortunes have been amassed in this department of agriculture, and the business, under favorable auspices, is perhaps more largely remunerative, than any other branch of husbandry.

The soils best adapted to this plant are the bottom lands of the Mississippi, and other streams emptying into the Gulf of Mexico. This great river, for some forty miles below New Orleans, and for many miles above, is lined with plantations devoted mainly to sugar. No other staple is cultivated, where sugar can be made profitably. These plantations with their neat mansions, and their slave quarters, their barns and sugar houses, are the striking features of the river scenery, as you pass up from the Balize to the city. The whole bank of the river, for a mile or two back is cleared, and the cane fields of one estate join those of another, in almost unbroken succession. Such a wide expanse of cultivated fields, all devoted to one crop, can hardly be found on any other part of our territory. Such a sea of tropical verdure, in the full luxuriance of Summer, is one of the grandest spectacles in this great valley.

THE MANSION AND OUT-BUILDINGS.

There is much greater sameness in the dwellings and surroundings of the sugar plantations, than on those of northern farms. This is owing mainly to the monotony of the country and to the similarity of circumstances in which the planters are placed. Every one relies upon sugar for his money, every one uses slave labor, and either owns or represents a large capital invested in his business. In a description of the house and buildings of the plantation just visited, you have a good idea of all the plantations on the lower Mississippi.

The dwelling is a large two story frame building situated just inside of the levee (embankment), that is raised on both banks to guard against floods in the river. A road passes along in front of the house, running nearly parallel to the river, and this is usually the only road in the region. The country on all sides, is seemingly a perfect level, but really sloping back from the river two or three feet in a mile. In front of the house is a spacious yard planted with fruit and ornamental trees. As we alighted from the cars, a bright little yellow boy was in waiting to conduct us to the house. We entered through

a gate and passed up through a broad avenue overhadowed with stately elms. On either side of the elms were orange trees in rows, some ten or twelve feet apart, and beyond these were the Arbor Vitæ, and occasionally the pettisporum, which here makes a large stocky shrub eight or ten feet high. Another servant, of still lighter color, received us at the foot of the gallery or piazza stairs, and conducted us to his master. There is a broad gallery protected by the roof, extending the whole front, and in some of the houses, it goes clear round. This gallery answers the purpose of a reception room, and is perhaps as much frequented during the day as any apartment within doors. The white family live and sleep upon the upper story, taking their meals in a spacious dining room below. The parlors were comfortably, but not extravagantly furnished, not as well as we have often seen among the more thriving small farmers of the north. There was a piano, and music, and a few books and newspapers. The negro quarters were just south of the mansion, in another large yard. These were mostly of brick, furnished with a projecting roof, in front and made double to accommodate two slave families each. They had no yards around them for cultivating garden vegetables, as is quite common upon the cotton plantations. In the rear of the quarters were the cooper's and the blacksmith's shops, establishments found upon all the large plantations. There was also a large barn, where the mules and oxen are stabled.

This plantation consists of twelve thousand acres, only about twelve hundred of which are cultivated. It cost, several years since, two-hundred and forty thousand dollars. There are one hundred and sixty slaves upon it, out of which there are only ninety three full hands. They are worked by tasks, and one that does a whole daily task, passes for a full hand. Of the boys and women, some do three quarters of a task, some one half, and the youngest only one quarter. The product for this year will be only eight hundred hogsheads of sugar, of one thousand pounds each, and about five hundred barrels of molasses. The sugar made here is of the finest quality, and the best grade sells as high as a hundred dollars a hogshead. The only other important crop raised, is Indian corn, of which eighteen thousand bushels were harvested. This was grown, contrary to the usual practice, among the cane, and of course diminished the yield of sugar. The grinding was finished on the 26th of January. This season continues for three or four months, and is the most busy and joyful season, upon the plantation. Immediately upon the close of the sugar making, the preparation for a new crop begins. The planting season extends from the middle of January to early in March.

PREPARATION OF SOIL

All these sugar lands are what may be termed reclaimed swamp. The soil, however, is very different from swamp lands, formed under other circumstances. It is not made up exclusively of the decay of plants growing upon the spot, but very largely of the wash and float wood of the river. All the soils from the Alleghanies to the Rocky mountains have sent in their contributions to the delta of the Mississippi. The levee protects the lands against the river. Then drains are dug running at right angles to the river, and discharging into the swamp two or three miles distant. On some of the plantations a levee is also made upon the swamp side, and a steam pump is used to discharge the water. There can be no doubt of the economy of steam drainage, for not only is the yield of cane very much larger, but it makes more sugar, and of better quality. By taking the water out of the land, the temperature is raised, and a greater length of cane becomes fit for grinding. The soil is what would be called, a rich clay loam, without any subsoil. It is all black loam, to the bottom of what used to be the Gulf of Mexico. In places, the clay is so pure that it is burned into bricks. The material for making tile is abundant, and the day can not be distant, when a soil that so much needs them will receive their ameliorating influences. But though steam drainage is so profitable, even with the open drains, it is not uniformly employed. The plantations are usually purchased upon credit, and worked with reference to immediate results. The profits for the year are expended in liquidating debts, or in purchasing more stock and negroes, rather than in improvements of a permanent character.

THE PLOWING

follows immediately upon the clearing of the drains. This operation differs a good deal upon different plantations according to the intelligence of the cultivator. Here, the breaking up was done by a heavy team of six or eight mules, and a deep tiller turning a sod twelve or fourteen inches thick. Others are content with six or eight inches. Winter plowing, that is in December and early in January, is practiced upon some plantations, and slight as the frosts are here, they are found to benefit the succeeding crop. In breaking up and planting a new piece of swamp land, the cane grows so luxuriantly that it does not get

ripe enough at the usual time of cutting, to make good sugar. The richest cane is upon old meadow.

THE PLANTING.

The cane has a perennial root, and after the stalk matures new shoots are sent up. In congenial soil and climate it does not attain its full maturity under a year, and the ripening of its seed is said to require fourteen months. This function termed "arrowing" is only performed in a steadily hot climate. It is extremely sensitive to the cold, and with the first frost, stops its growth. Freezing disorganizes the sap, and makes it worthless for sugar.

As frosts are common in all parts of Louisiana, during our winter months, the plant never attains its maturity here. Not more than half of the stalk is fit for grinding. In the West Indies it matures, and so great an advantage is this fact that a similar growth of the cane there will yield twice or three times as much sugar. An acre there will yield from three to six thousand pounds, while, in Louisiana, the average is not over one thousand. Nothing but the extraordinary fertility of these bottom lands enables us to grow sugar at all.

After the ground is plowed and harrowed, drills are opened with a double mold board plow, seven feet apart. They are put at this distance, not only to meet the wants of the plant, but to facilitate cultivation, which is performed with a pair of mules and the plow. In these drills cane stalks are planted which have been kept over for the purpose. They send up shoots from the joints. On the best managed plantations, this cane is selected from the ripest of the crop, and is put up in beds, and protected from the frost with its own leaves. These beds are called mattresses, and are to be seen upon all the fields at this season. They are about two feet high, and about a rod in width. The beds are opened at the planting season, and the canes come out moist, and the eyes at the joints swelling or sprouting. The immature tops are cut off, and the stalks are loaded into carts, and dropped near the furrows, where they are to be planted. The carts used for this purpose are much like the one-horse carts of the north, but are served with three mules—one in the shafts, and one upon each side. The Jehus are generally "Young Africa" fast lads, from fifteen to twenty, who are full of mettle themselves, and love to put the mules upon their mettle.

The slaves usually work in three gangs at the planting; the first, consisting of the younger and weaker hands, take the cane from the cart, and lay near the drills, the second laying it in order, and the third covering it with hoes. The canes are laid in the drills either two or three abreast in such a manner as to break joints. They are covered about an inch and-a-half deep. The hoes used are very heavy, clumsy articles. It is claimed, and probably with truth, that the light hoes such as answer a good purpose upon our roughest soils, would not last laborers here, a single day, where not a stone can be found upon the plantation. The above course is pursued upon a new piece of land.

The cane will continue to sprout several years from the old roots, and where the planter can avail himself of this advantage, a large expense for cuttings, and for labor is saved. One acre will only furnish about cane enough to plant four acres. As the planting has to be renewed once in three years, it takes a twelfth part of every crop for seed cane. In the West Indies, they can grow eight successive crops from one planting. The sprouting of cane from the old stumps is called "ratooning." They grow with much less vigor each successive year, and it is not found profitable to continue them, after the third, in this climate. In this respect, it will be seen, that our planters have to pursue their business under a great disadvantage.

(To be Continued.)

What the American Agriculturist has accomplished.

FROM THE SECRETARY OF A WESTERN AGR. SOCIETY.

MR. EDITOR: Our County Society has for several years past given a considerable number of copies of the *American Agriculturist* as premiums. At our March meeting, for arranging our next premium list, it was moved that we this year substitute another paper, printed nearer home. A member present, who takes and reads most of the leading agricultural papers, opposed the motion, and in the course of his remarks, gave a summary of what the *Agriculturist* has done and is doing, which induced a unanimous vote to double the number of copies hitherto offered. It has just occurred to me to send a few of his statements for publication. Some of the points noted which are of general interest, were as follows:

1. The *Agriculturist* takes a bold stand against all humbug. It does not puff doubtful articles for pay or to please advertisers, and does not even admit into its advertising columns, patent medicines, nor patented or unpatented spurious articles of any kind, when known or believed to be such. Mr. Greely well remarked, in the *Tribune*, of this journal, that "Its editor was nervously anxious not to be humbugged himself or let anybody else be, if he could help it."

2. It has saved to the farmers of the country millions of dollars. For example when the Chinese Sugar-Cane fever ran high, and speculators were buying up all the seed in the country, to be resold at enormous prices, the Editor of the *Agriculturist* immediately procured seed from abroad, and offered enough for experiment, free, to every one of his subscribers who asked for it. By this means the seed was widely scattered, and tens of thousands of persons were prevented from paying half a dollar to a dollar an ounce; for though some persons were led by this offer to subscribe for the paper, no one failed to get more than his money's worth in the paper itself, and some were thus led to become readers of agricultural literature. Doubtless, thousands of persons are thankful to-day that they were thus influenced. (The *Agriculturist* seed distribution thus originated, has carried the germs of useful plants, and beautiful and beautifying flowers to a vast number of homes where they would not otherwise have found their way in a score of years, if ever. T.N.H.)

When the "Chinese Potato" (*dioscorea batatas*), was brought before the country in so "taking" a manner, and almost every farming neighborhood was flooded with pamphlets setting forth in glowing cuts and figures, the wonderful merits and prospects of the new "esculent," and the journals of the day were filling their columns with "got up" articles, extolling the thing to the skies, the *Agriculturist* was prompt in uttering its warning notes, and by its humorous burlesque cut, effectually strangled the Chinese imposture. It is impossible now to enumerate the many instances where farmers were thus prevented from losing their ten or twenty dollars each by investing them in a dozen or two of worthless "tubers." In this State (Indiana), there is not the slightest doubt but in this matter alone, the *Agriculturist* saved our farmers more money than they have yet paid back for subscriptions to the *Agriculturist*, and the same is doubtless the case the country over.

The course of the *Agriculturist* upon super-phosphate and other manufactured manures, has saved farmers half a million dollars at least.

To pass over other examples, and come to a recent one. The "Honey-blade Grass" men were scattering over the country, hundreds of thousands of pamphlets, well calculated to deceive the unwary, honest-thinking masses. (It is said that 1,250,000 of these pamphlets have already been distributed.) So deceptive were they that even within the bounds of our own Society, where the Hungarian Grass-Seed is abundant, a club was being made up to send for over twenty bags of the so-called "Honey-blade" seeds, and we were merely waiting, at the suggestion of a member, to see if it was advertised or noticed in the March *Agriculturist*. The article in that number (page 71) has saved us enough for at least fifty annual subscriptions. How many thousands of others have been in like manner benefited, we have no means of knowing.

3. The plain, simple, straightforward style of the *Agriculturist* articles on various topics, said the speaker, has introduced a decided improvement into other agricultural journals, as I have had occasion to notice in my reading.

4. The great number of beautiful illustrations introduced into the *Agriculturist* has not only improved the taste, and helped the comprehension of its own readers, but has given a new impetus to other journals of like character, and led to decided improvements in this respect. The popular illustrations, and plain, simple descriptions of the Water-Ram, the Telegraph, the Sewing-Machine, and many other things of like character, have been of inestimable value to the readers.

5. The articles on the In-Door Department have awakened a new interest in, and given efficiency to household labors. The value of a single article and illustration on "setting out a table," can hardly be over-estimated.

6. The boys and girls' department has already done much, not only to awake an interest among farmers' sons and daughters, but to develop in them a taste for and an interest in rural labors.

7. The entire non-political, non-partisan, non-sectional—in short, the non-controversial character of the *Agriculturist*, together with its high moral tone, renders it an unexceptionable visitor to every family in the land.

8. The constant determination shown by the Editors to even suffer the imputation of being "old fogyish," and behind the times, rather than to publish anything of doubtful expediency or utility, renders the *Agriculturist* eminently a safe and reliable counsellor for farmers.

9. The central location of the *Agriculturist*, especially the fact that it is in New-York City, from whence issue, nine-tenths of the humbug schemes calculated to deceive

farmers, is a point not to be overlooked, in comparing its advantages with our more local journals.

10. Its very large circulation enables the publisher to produce a larger, better paper, at a much cheaper rate than could be done under other circumstances.

Such, Messrs. Editors, were a few of the reasons set forth in the discussion alluded to; and I think that, not only in justice to the publisher himself, but as suggestive to others, especially newer subscribers, who may be unprepared to sum them up, you should insert them in an early number of the *Agriculturist*. T. N. H.

M— Co., Indiana, March 15th, 1859.

Raising Chicory in this Country.

In our February issue, we described chicory and its use as a substitute for, and an adulteration in coffee. For an illustration of the appearance of the growing plant see page 53. Large quantities of prepared chicory are annually imported into this country, but we were not aware until recently that any attempt had been made to grow the plant here. We have before us the card of "Floto & Reinhard; Chicory Manufactory," Williamsburg, L. I., and on February 15th these gentlemen called together a company of farmers at Flushing, to listen to some remarks by Mr. Ronge, on the value of chicory as a farm product, and to receive proposals for growing it on contract. We attended the meeting and heard the remarks and proposals. It was stated that in Newtown, and elsewhere, several persons last season tried small plots with favorable results; that the product per acre was quite as large as that of carrots on similar soil, and with very similar culture; that the roots were sweeter, more aromatic, and better than the imported, and that the crop would be highly remunerative. They proposed to deliver to farmers necessary seed, charging the cost of importation (or \$1 per lb.) and contract to pay \$20 per tun (1 cent per lb.) for all roots delivered at their factory in the months of September and October, the roots to be cleaned by washing them, and none to be taken weighing less than 2 ounces each. The agreed price of the seed to be deducted from the returns for the roots.

The terms proposed appear to be fair, and we presume some farmers will be induced to make the trial of an acre or so. It was recommended to use about four pounds of seed to the acre, to sow about the middle of April and to cultivate in all respects like carrots. Specific printed directions are to be furnished to those who take the seed. This will be wholly an experiment, as it is yet to be determined whether this plant will flourish well, one year with another, and whether its quality will enable it to compete with that imported. It is cultivated somewhat largely in England, in the Counties of Surrey, Bedford and York, but that grown there is of inferior market value to that imported from Prussia, Belgium and France, where it is a staple crop in some localities. If the experiments of the coming season, which we shall watch with some interest, shall prove successful, its culture here will be rapidly extended, though this must be mainly confined to the vicinity of manufactories, as the roots can not be transported to great distances. For the reasons stated in our former article, we should deprecate its culture and extended use; though it is no worse than tobacco, and if to be used, as is already largely done, we may as well produce it here as to import it, provided we can do so advantageously. We shall probably try a small plot this year as an experiment, and if so, report the result.

Never sport with pain or poverty

Mildness governs better than anger

The Buckeye Potato.

A correspondent last month, (p. 70) criticised this rather severely, which called forth several letters of remonstrance, to which we were disposed at first to give heed. To convince us of the value of these, a firm having them for sale kindly sent us a barrel for trial. We also procured specimens from other sources, and are sorry to say we can not commend the potato. Granting all that is claimed for it by our correspondents as a quick and prolific grower, we should still have to condemn it from the fact that among all the various specimens we examined, a majority of the sizable potatoes were hollow in the center, or near one end. Some of those cut open were sound at the center, but a hollow would be found in one or other of the pieces or both of them. We tried perhaps sixty potatoes, grown by several different parties with the same result. This defect alone would unfit it for market.

Cultivation of Carrots.

To the Editor of the American Agriculturist:

As I have been engaged in the cultivation of carrots to the extent of from one to two thousand bushels a year for several years past, I have thought I could give a few ideas which would interest, if not instruct some of your readers.

My soil is loam, considerably mixed with clay, with a hard-pan subsoil, and is therefore much improved by blind drains and deep plowing. I select ground which has been in cultivation one or more years, and after clearing the surface of all small stones and other rubbish, cart on a good coat of manure and plow in deeply: following by the subsoil plow improves it. I think fresh manure from the stable will bring as good a crop as compost manure, but it is more in the way while preparing the ground for sowing. If the weather is dry, no more should be plowed at a time, than can be harrowed and raked in a few hours, as it is likely to become lumpy. I use a harrow for that purpose made as follows. Take a 2 inch plank 8 feet long and 1 foot wide; into one edge of this, frame four 2x4 joist, 4 feet long, so that when framed the plank will stand edgewise. On the bottom of these pieces nail boards, also one on the top to ride on. As this moves along, the plank in front being set edgewise, will level the ground and the boards back of it will smooth it. Mellow ground worked in this way will not require much raking.

I plant from the 15th to the last of May, and the late sowed have always done as well as the others. I think the Long Orange variety the best; though not as heavy as the Altringham, they generally yield more bushels to the acre.

I sow about two pounds of seed to the acre, with a machine, in drills sixteen inches apart; though I think twenty inches would bring as large a crop with less rows to weed. As soon as they show the third leaf, which is generally in about two weeks from planting, they should be hoed and cleaned from all weeds, and thinned to four or six inches in the row: after this hoe and weed often enough to keep clean. I use a hoe nine inches long and one and-a-half wide, drawing it as near the row as possible.

I harvest them from the 10th to the 25th of November. The freezing of the top of the ground will not injure them, but it is not safe to leave them too late, for fear of snow or hard frost.

For digging, I use a subsoil plow, letting it run on the left hand side of the row, and if your team works true it will raise them so that two men pulling will keep up with the plow. With the

help of two men I have pulled sixty bushels in one hour. I throw them into piles and cart them in before night with the tops on; as at that season of the year it is generally cold topping them in the field, and there is time to top them wet days, and mornings before the frost is off. The root will keep better if the tops are taken off about an inch above the crown. A cellar that will keep potatoes through the Winter is rather warm for them; they do better where they can be kept cool. If put in in large quantities there should be chimneys made of slats and set up once in a few feet through the pile. I have kept them in good order in this way until June.

I sell them for feed for horses at about thirty-two cents per bushel or \$16 per ton. Every man who keeps a horse should feed some, as I am told by those who ought to know, that they assist in digestion of the other feed of the horse, thus giving him more nourishment from that, besides what he gets from the carrots.

Six or eight hundred bushels to the acre is a common crop. I plant year after year on the same ground with good success. The best should be saved for seed, the large heads of seed being used, and the rest burned. Carrots for seed should be set out as soon as the frost is out in the Spring; tie them up to prevent them from cracking off of the main stump. Give the carrot tops to the cows, it will make rich milk and yellow butter.

Southport, Conn.

D. H. SHERWOOD.

Agricultural Department at Washington.

WHAT IT MIGHT BE, OUGHT TO BE, BUT IS NOT.

After sending our last number to press we spent ten days on a visit to our National Capital, partly to gain health and vigor by release from business cares, and partly to witness the congressional proceedings during the last week of the Session. Another object in view was to look into the operations of the so-called agricultural Department, connected with the Patent Office, and supported by the Public Treasury. To prevent any embarrassment, or interference with our investigations, we purposely avoided direct contact with the chief "agricultural clerk," who, though not nominally, yet really holds under his exclusive surveillance, control, and direction, the entire operations of the agricultural department. We passed much time, however, with sundry gentlemen in Washington, who are well informed as to the way things are managed, including sundry members of Congress, members of the Congressional Committee on Agriculture, etc.; and we also had a lengthy personal interview with Commissioner Holt, who is (or was then) the nominal head of the Agricultural Department. From the information thus gained, in addition to what we had previously known, and from several sources of future intelligence opened to us, we propose from time to time to set before the public the defects and wants of the department, with the hope of enlightening our readers, and so far as may be, contributing to improvement in the management of one of the most important departments connected with our General Government.

As now managed, the agricultural operations at Washington are a sham—a shame to us as an agricultural people. Our government might well, and ought to spend at least a million dollars annually in promoting the agricultural and horticultural improvement of the country, but without a change in the present organization it would be far better to save the sixty or seventy thousand dollars spent in salaries, in seeds, and in getting up the Annual Reports, and also the hundred and

fifty or two hundred thousand dollars more for printing, binding, and distributing these "Reports" (See next page for notes on the last published Report). This view is already taken of the subject by many Members of Congress. This year the appropriation is cut down to the pittance of forty thousand dollars, and several Members stated to us that even this sum would have been withheld, had it not been for the hurried legislation of the closing hours, when it passed, without discussion, as an appendage to the general appropriation bill. We were in the gallery of the House at the time, and noted that it received but a small vote, though enough to constitute a majority of those present, giving attention and voting when this particular appropriation chanced to be passed along with many others. As a member of the House remarked to us, "several Representatives who give no attention to the matter of agriculture and know little or nothing on the subject, were afraid to vote against any measure of this kind, lest it should be construed by their constituents in the 'Rural Districts' as an evidence of want of sympathy and interest in the 'bone and sinew.'" We were assured by Members of the next Congress, that the entire agricultural department would be abolished next Winter unless a decided change be made in its organization, efficiency and usefulness. Appended to the appropriation was this significant clause:

"Provided, That no part of the appropriation shall be used or expended in defraying the expenses of a body of men or delegates assembled in Washington or elsewhere, as an agricultural college or 'advisory board of agriculture,' convened under the authority of the Secretary of the Interior, or any other person, under any name, for any object whatever."

This was designed as a direct censure upon the recent enterprize of the "agricultural clerk," (noticed by us in February, p. 35) viz.: the secret calling together of a selected paid coterie of persons to whitewash the doings of the department. [In this connection we would inquire why the report of that "Advisory Board of Agriculturists" has never been permitted to see the light, though called for by Congress. Rumor says, the "agricultural clerk" caught a Tartar in the report itself, as prepared by them. We call for its publication as originally made by the committee of that body.]

As a further indication of the feeling in Congress, we may add that the Senate refused to print the usual copies of the Agricultural Report. The House, at first also refused to print them, but after the loss of the bill to abolish the franking privilege, several members, who wished to have a supply of electioneering documents, to frank as a "sop" or compliment to their "rural constituents," contrived to get a hasty vote in the House for printing 210,000 copies of some kind of an Agricultural Report—they knew not what, for they only voted upon the title page, and for aught they or we know, it will be as poor a thing as its immediate predecessor.

HOW THE AGRICULTURAL DEPARTMENT IS ORGANIZED.

As every one perhaps understands, the executive government is divided into "Departments," as the Department of the Interior, the Department of War, of the Navy, of the Treasury, and of the Post Office. The head or chief officer of each Department is called the Secretary of that Department, except the P. O. Secretary, who is called Post Master General. These several chief officers are appointed by the President, and they together form his Cabinet.

The Secretary of the Interior has charge of several sub-Departments, such as the Patent Office,

Indian Affairs, etc. Under him, is the Commissioner of Patents, who employs a so-called "Agricultural Clerk." All business matters done, and Documents issued relating to agriculture, are in the name of the Commissioners of Patents, who is himself a secondary officer. His attention is, however, mostly given to subjects connected with Patents, and his agricultural clerk really manages and controls all matters connected with agriculture.

Mr. Thompson, is the present Secretary of the Interior. Mr. Holt was, until recently, the Commissioner of Patents, but he has just been appointed P. M. General, and the office of Com. of Patents is vacant at the time of this writing.

This tacking agriculture as a sub-department on to still another sub-department, is not only placing it below its proper position in point of importance, but this very fact so depreciates its dignity, that little attention is given to placing at its head a man of acknowledged superior abilities. This is abundantly proved by the fact, that for ten years past, the really important station of "agricultural clerk," or chief manager of agricultural affairs, has been occupied by a man of only ordinary ability (D. Jay Browne, who is the present incumbent of the office).

When we say "ordinary ability," we only repeat what is the general opinion of the great mass of intelligent men in the country, that is of those who take interest in the subject of agriculture. In all agricultural transactions connected with the Patent Office while under his control, there has been shown a lack of system, of valuable research, and of broad comprehensive views, which has brought the department to its present low standard in the estimation of the people at large.

Said Commissioner Holt to us: "I do not understand this apparent opposition, or at least this want of sympathy with a department so deserving of the cordial support of all classes as that of Agriculture." The real cause of it we endeavored to set forth to him, viz.; the want of an efficient man at its head to conduct and guide its affairs in such a manner as to command the respect and confidence of the country. We found that the Commissioner has himself known very little of the criticisms of at least three-fourths of the Agricultural Press, and of the more influential agricultural individuals and societies. His information in this respect has come to him through his agricultural clerk, and of course he has been permitted to know only the favorable side. [We suggest to our agricultural cotemporaries, that hereafter when they have occasion to censure the agricultural operations at Washington, they send a marked copy sealed up and directed personally to the Commissioner of Patents.]

So far as we could learn, whenever anything unfavorable to the agricultural clerk has chanced to come to the Commissioner's notice, it has been promptly attributed by his clerk to the influence of interested seedsmen, or to personal aspirations, or personal enmity of editors. While at Washington, we heard for the first time that the last named motive had been attributed to this journal. We beg to say to the Commissioner and to Mr. Browne himself, that there is not the slightest ground for this supposition. We heard (at Washington) for the first time, and at only second hand from Mr. Browne himself, that he had, at some former period, a personal difficulty with one of the former publishers of this journal. With that we have nothing to do—and care nothing. Until he published his famous "autobiography" and sent it over the country under the government frank, we did not even know that he had so much as set foot in the office of this paper.

The truth is, we do not know Mr. Browne personally, but from the day we read his Book on Manures, and his Book on Trees, we set him down as a man of very moderate ability, native or acquired, and when we heard of him as "agricultural clerk" at Washington, we could not but regret that that important station had not been better filled. Still we hoped for the best, and did what we could to uphold him and the department. But after long trial and waiting, the feeble, inefficient character of all that has been done, the wishy-washy reports that have annually emanated from that department, the character of the seeds collected and distributed, and the way the thing has been carried on—all these matters have led us to the irresistible conclusion, that without a change in the administration of affairs, no good will come of the money expended by government in trying to promote the interest of agriculture in our country. This department, even in its present third-rate position, if properly conducted, might be productive of great good, and we earnestly hope that the in-coming Commissioner of Patents, whoever he may be, will place it in such a position, and under such control that we can unite with our cotemporaries in extending to it the strongest sympathy and support. It is in the power of the Commissioner to make this the most efficient, the most popular branch of government. We hope he will appreciate this, and take hold of it with a strong determination to make it what it should be.

With these statements we leave the subject now, intending soon to give some specific illustrations of the way things are and have been managed at the Capital. These will in part refer to: how the money goes; what salaries are paid and to whom; what special favors are conferred; how the articles for the Patent Office Report are obtained or made up; how seed has been knowingly put up and sent abroad wrongly labeled; some of the nonsensical "official instructions" e. g. in regard to alligator's blood for orange tree insects, etc.; who helped the clerk to his position and how he is still rewarded for it; etc., etc. The developments will be interesting and instructive.

Last Published Patent Office Agricultural Report (1857).

We recently saw an unpublished picture, representing a large cabbage—the different leaves of the plant being labeled with the names of sundry agricultural works such as, Farmer's Encyclopedia, Loudon's Works, etc., etc. By the side of this cabbage stood a man with a monster pair of shears clipping off the ends of the leaves, which dropped into a basket labeled "Patent Office, Agricultural Report." This picture was an admirable and truthful satire upon the volume named at the head of this article.

Here is a volume of 552 pages got up at an expense of some \$50,000, of which 240,950 copies have been printed and bound at an additional expense to the U. S. Treasury, of some \$150,000, and distributed free through the mails, taxing them perhaps \$50,000 more.

And what has the country in return for this outlay of a quarter of million of dollars, professedly expended for the promotion of Agriculture. Let us look into the volume. We find, first, some fifty pages on the "Progress of Agriculture," evidently made up from an English Encyclopedia and a Prussian public document, save twenty pages of old statistics from former Census reports; the whole without especial value even as a work of reference. Then we have eighty pages on animals, such as: English draft horse (brief,) Lla-

ma, Asiatic Goat, Hares, Canadian Porcupine, Shrews, Weasels, elementary chapters on Bees, (condensed from Swammerdam!) etc. Most of these pages might appropriately appear in a work on Natural History, if well written—the only practically useful thing being an investigation on Cotton plant insects by Townend Glover which is condensed into the smallest possible space, and like most other things in the book is signed D. J. B. A little further on we have 20 pages on the manufacture of salt—we can not find that this has the slightest connection with agriculture. Then come 14 pages on Bread crops, 8 pages of it condensed from the London Farmer's Magazine (signed D. J. B., of course,) followed by some analyses by Dr. Jackson, who is retained in the pay of the Patent Office, we suppose, in return for his influence in securing a berth for D. J. B. Next follow 16 pages on Tea Culture, mainly from Robert Fortune's report to the French Government in 1853! (This was translated for and published in the *Agriculturist* some five years since!) We then have 46 pages on Sorghum Canes, not originated for this work but taken from a report to the U. S. Agricultural Society, and consisting chiefly of statements of individuals—now so far behind time as to be of little use, except to flatter the writers. We have following this, short chapters on Wine, and Hedge Plants, succeeded by 34 pages on Horticulture, confessedly condensed from two English works. Next, short chapters on Asparagus in Spain, and Hops in England, "condensed from authentic sources"—nothing said about hops in this country. Next under the imposing head of "Textile and Forage Crops" we find 125 pages entirely devoted to Cotton, and made up mainly of European commercial statistics. There is nothing practical said on the culture of Cotton, and not a word is said in the Book of other textile crops, such as Hemp, Flax, etc., while the great forage crops of the country, only second in importance in our agriculture, are entirely ignored.

The work then closes with 138 pages on meteorology by Prof. Henry, a valuable thing in its line, though one which will hardly be read by one person in fifty of those into whose hands this report will fall. So much for the Official Document on Agriculture, nominally got up by the General Government of a great agricultural people, and distributed at home and abroad. In another article (see preceding page,) we have indicated, in part, some of the causes of the inferiority of these Reports.

THE "HONEY-BLADE GRASS SEED."—From exchange papers, we learn that the sale of this article is still going on in some sections of the country, but not very extensively, probably, as the *Agriculturist* goes to at least two-thirds of the Post Offices in the United States. We have already received a host of letters heartily thanking us for the *exposé* last month, and enumerating thousands upon thousands of dollars, in the aggregate, that have been saved to our readers by its publication. We can hardly wonder that multitudes of honest thinking, trusting farmers were taken in by the specious manner in which this matter was brought before the community. While in Washington we learned that an agent was there in February, and succeeded in selling a large number of \$3 bags, (of 15 lbs each,) many of them even to Members of Congress. The extensive purchases of "Hungarian Grass Seed" by the "Honey-blade Seed operators," has actually raised the price of the Hungarian Grass or Millet Seed, from \$1@2 per bushel, to \$3 per bushel, at which price it is now held by regular dealers.

Manuring with Mud.

As it is difficult for many farmers to obtain all the barn-yard manure they need, it is well for them to be on the look-out for every other means of fertilization within their reach. Many live in the neighborhood of canals, ponds, and sluice ways, where the large annual deposit of mud; and various refuse, is cleared out every Spring, and left lying on the banks unused. This mud may serve an excellent purpose. If farmers should cart it home, at their leisure, and let it lie in broad heaps exposed to the air and frost, and give it also a few coatings of lime to sweeten it, and a few turnings over to mix it well, it would make, in a few months, an excellent fertilizer. And why not use it, also, in making the compost heap? Cart a pile of it into the barn-yard, near the port-holes of the stables, and then stack it up in alternate layers with the dung, as fast as that accumulates. As a top-dressing for grass, it is a very valuable fertilizer. Sandy soils treated with it show an immediate and decided improvement.

Muscle-beds, found in the banks of rivers emptying into the sea, make an excellent manure. They are usually dug in the winter season, heaped up on the shore, and then carted to the fields when wanted. Like the mud and vegetable deposits of canals, they need exposure to the action of frost before using.

Sea-weed and kelp may also be mentioned here, thousands of loads of which are often thrown on the shore in a single storm. These articles need only to be collected and piled in heaps for a short time, when they may be applied to the land and plowed under. Like many other sea-side farms, Danl. Webster's land at Marshfield was greatly benefited by this treatment. And we

might here add fish to the list of manures, if we had not already got too far away from the "mud" with which we started. Every farmer, with his eyes open, can find in his own neighborhood some means of increasing the fertility of his land.

Burning Sods and Weeds for Manure.

To the Editor of the American Agriculturist:

The cheapest manure I ever used for fruit trees, blackberries, raspberries, potatoes, and most kinds of garden vegetables, is obtained in the

well to burning, pile on the turf, keeping the fire from breaking out by adding more turf when it is needed. As soon as one heap gets well to burning, I begin another, and so on.

After the ground is plowed, a man can easily make from one to two hundred bushels per day.

I find this an excellent way to dispose of weeds and bushes with which the roadside is often infested; and the manure obtained is of so good quality, that I am quite sure, no one who has once tried this method, will trouble himself to go a great distance for unleached ashes, or for any other kind of alkaline fertilizers. H. L. C.

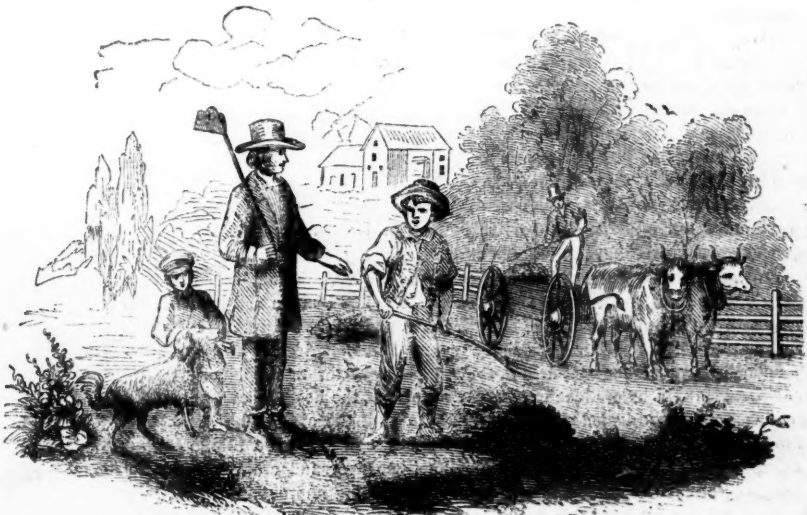
St. Lawrence Co., N. Y.

REMARKS.—Weeds should never be allowed to go to seed, but if this has been done, by all means destroy the seeds. Burning sods furnishes a supply of ashes for cold sour land—but usually vegetable matter like turf is a better manure before than after burning. It frequently happens that in clearing and draining swamp lands, there is a deposit two or three feet in depth, consisting of decayed leaves mixed with soil, and also more or less of half-rotted logs and brush. If the whole mass were burned as it lies there would be little left but ashes and the underlying clay or hard-pan. It is necessary to burn the bulk of the timber and brush while the soil is saturated with water. After this is done, it will often pay to plow up the muck deposit when dry, and cart off all the coarse material, and also a part of the muck itself, and burn the mass. This will furnish a large quantity of alkaline ashes which may then be carried back and spread over the surface. These will sweeten the remaining muck, and assist its decomposition. It will then be admirably fitted for cultivation, and produce heavy crops of turnips or grass, corn, etc. If by such a process the depth of the muck soil be



HOMEOPATHY.

The Soil Doctors, having read in the Eighteenth Book of Chronicles (see page 68), concerning the troubles of Farmer Thomas, hasten to pay him a visit. Mr. "Chilian Guano" having first arrived, departeth in a rage, on receiving a stern rebuff from Thomas, who saw a cabbage in the bag upon his back. Our picture sheweth the perplexity of Farmer Thomas at the conflicting theories of those who have each an infallible cure for his sick land—from the brains whereof groweth only thistles and coarse grasses. The "Patent Manure" agent sheweth conclusively that one bushel per acre of his medicine (4 teaspoon full to a square yard) will prove an infallible cure for all diseases of soils. The "Mineral Manure" man sheweth conclusively, that only an infinitesimal quantity of mineral matter is wanted to render any soil immensely and infallibly vigorous and productive. He carrieth in his vest pocket amply enough for a ten-acre field, and in the casket upon his back enough to supply a whole State. The Super-phosphate man sheweth conclusively that the others are all wrong, and that phosphoric acid only is wanting in any diseased soil. He proved beyond the possibility of contradiction, that an infinitesimal amount of burned bones dissolved in acid, is the medicine, and the only medicine needed. But Thomas still doubteth.



ALLOPATHY.

FARMER JOHN hath certain notions of his own in regard to medicines for his family, but whatever these may be, he holdeth fast to the old fashioned Allo-pathic treatment for sick land. He believeth particularly in stimulating the land with large doses of organic manures, and strenuously contendeth that thirty loads per acre of barn-yard manure well mixed with muck, is the best of all medicines for a weak, emaciated soil; and Farmer John's experience confirmeth his theory.

following manner. I plow up the sides of the road or any other place where there is turf to spare, and after letting it dry a few days, start a fire of roots, stumps, rotten wood, brush, or any other suitable waste material, and after it gets

reduced to a foot or so, and afterwards an inch or two of the more compact subsoil be annually plowed up and mixed with the surface, there will eventually be produced one of the most valuable soils that could be possibly obtained, as it will

have sufficient compactness to hold moisture, and at the same time contain a large amount of rich vegetable mold.—Ed.

How Does Your Farm Pay?

A very important question this, which every farmer should be able to answer with a good degree of definiteness. It is not enough to know that one is getting along in a general way, without knowing what part of the farm is profitable and what not. It is possible to know how much profit there is in raising and fattening a steer, how much in a field of corn or wheat, how much in the annual produce of the whole farm.

A good way to do this, is to keep an account with the farm from the beginning to the end of the year. Under the head of debtor, put down the interest on the cost of the farm, the money paid out for new buildings, fences, drains, for manures bought, for implements, seeds, live-stock, hired labor, taxes, etc., in short, all the necessary expenses of carrying on the farm for one year. Then, on the credit side, put down all that the farm produces for home consumption and for market, and all that is added to its real value in the way of improvements. If it supports a family comfortably, besides furnishing something to be expended in improvements, it is undoubtedly paying well. And if, besides this general profit, each crop and each animal raised, affords a clear and known profit, the farmer is doing well, and he knows how it comes to pass.



Blinks from a Lantern..... VIII.

BY DIOGENES REDIVIVUS.

AN OLD STYLE FARMER.

In continuing my search after a model farmer, I lately called on Deacon Jones, and found him so much of a paradox that I shall present him to your readers as a sample of a man—if not of a cultivator—worth looking at. It is commonly supposed, that general intelligence will show itself, at once, in cultivating the soil—that a shrewd merchant or mechanic will be apt in coaxing crops out of the soil, and make money in almost any business. It is possibly true, that some men may be thus endowed with a sort of universal talent, and can turn their hands with equal facility to any kind of employment. But in most cases, nature is less prodigal of her gifts, and bestows upon every man an aptitude for one kind of business, in which alone he can excel, and by which he can win fame and fortune. It matters not that such multitudes fail to accomplish any thing. Their true occupation never “turns up,” and they have not force of character enough to find it.

Dea. Jones is one of the instances of a man good in every thing, but farming. Of course he belongs to the universal Yankee nation, and had in his youth, all that varied discipline of the wits and the muscles, which is indispensable upon the New-England farm. His first earnings in boyhood were spent for a jack-knife, which of course was soon lost, only to be succeeded by another of better style and finish—a double bladed article, with a cork screw and a file at the other end. This was as good as a whole kit of tools, and initiated him into all the mysteries of whittling.

With this, and the axes and saw, he could make almost any thing that he ever saw or expected to see. Fishes and dragons swam in mid air on barn and house-top, showing the course of the wind; wind-mills clacked on lofty poles to scare crows from the corn-field; water wheels whirled in the nearest brook; and sloops and schooners with paper sails floated in the pond. Sleds and wagons sprung up out of the woodpile, as if by magic, and ax handles and whip stalks, ox bows and bow pins, lined the sides of the corn crib. His wits were as sharp as his knife, and he cut his way triumphantly into the branches of knowledge taught in the schools. He wrote a beautiful hand, and while in his teens began his career as a school teacher, which he has followed at intervals for thirty years or more.

At one time, discouraged with the slow returns of eastern farming, he tried his luck out west during a few years. But even on the virgin soils of the prairie, he made little more than his living, and returned east, disgusted with the corn-crackers. He was a good son, if not a good farmer, and settled in the old homestead to take care of his aged parents in their declining years.

“Across the swale, half up the pine-clad hill
Stands the old farm house with its clump of barns—
The old red farm house—dim and dun to night,
Save where the ruddy fire-lights from the hearth
Flap their bright wings against the window panes—
A billowy swarm that beat their slender bars,
Or seek the night to leave their track of flame
Upon the sleet, or sit, with shifting feet
And restless plumes, among the poplar boughs—
The spectral poplars, standing at the gate.”

The parents have long since passed away, and here the Deacon lives, himself a father and grandfather, with one child—the others have passed out from under his roof. The farm consists of a hundred and twenty acres, lying in some half dozen different patches, the most of it at a distance from the house. But enough of it lies near home and convenient for tillage, to make him thriving if it were well cultivated. It was originally a rich hazel loam, bearing all the grains and fruits in great perfection, but a century of hard cropping, with little manure, has taken the life out of it. It is remarkably free from stones, and the whole of it can be cultivated with horse power. The farm is stocked with three cows, two horses, two pigs and poultry. Small as this stock would seem, it is quite as much as the land is now able to carry. His usual crop is three acres of corn yielding a hundred bushels, two acres of potatoes yielding a hundred and twenty bushels, a hundred and fifty bushels of oats, and about twelve tons of hay cut from fifteen acres of mowing. This with the corn fodder carries the stock through, but does not leave any hay for sale. The Deacon and his family have enough to eat and drink, but very little to sell, or give away. But they do give away a great deal of that which is better than gold or produce every year. He is at the head of every good enterprise, ready to visit the sick and the afflicted, and to minister to their wants according to his ability. Yet he is so poor, and cramped, that he has no means for making improvements, and his credit is so poor, that it would puzzle him to raise five hundred dollars on his own credit for any object whatever.

He has been contemplating for years the building of a barn cellar. The old establishment is exceedingly rickety, and nothing but careful patching has kept it along for the last thirty years. But he has not been able to get the means to do even this small job. He reads a good deal upon agricultural topics, and has the theory of a much better style of farming than he keeps in practice. He understands perfectly well, that housed manure is better than that which is made in the

yard. He has an excellent muck mine upon his farm, and has used enough of it to know its value, and yet he is content to farm it with less than a hundred loads of manure annually, as the basis of his crops. He understands the economy of employing labor, and yet he contrives to get along with a boy, doing the most of the work himself, for fear that he should not raise stuff enough to pay a hired man. Indeed he is bothered to get full pay for his own labor, and in the Winter, works part of the time at a mechanical employment, to get money to make the ends of the year meet.

It is surprising to see how a man, intelligent in other things, contrives to live on for a life time, cherishing the very disadvantages which must always keep him poor. His woodland is four miles from home, and every cord that he brings to his door, costs him a day's labor for himself and team, besides the cutting. It has not occurred to him, that he could exchange it for a wood lot near home, where the same labor would give him three-times as much fuel. A good part of his land lies so far from the barn, that full one third is added to the expense of cultivation. Yet he never thinks of putting it all together. He does not half cultivate thirty acres. It has never occurred to him, that ninety acres of his homestead, or full three fourths of his capital lies as a dead weight upon his enterprise, on which he pays taxes and interest, and gets no returns.

Dea. Jones is the representative of a very considerable class of farmers, kept constantly poor by walking in the footsteps of their fathers. Their land is scattered in small parcels, and is worked at great disadvantage. They own five acres where they improve one, and all their capital is sunk in this unproductive article. Many of them are good fathers and excellent citizens, and have raised up families of children, that are making their mark in the city, or upon the prairies and forests of the west. I always feel sad, cynic as I am, when I visit one of these old nurseries of good women and great men, and see their present poverty. The only help for them is in breaking up the old routine, and getting into new tracks. The best thing they can do, is to sell a portion of their land, to raise the capital to improve the remainder. Five hundred loads of good compost made under cover annually, would very soon put a new aspect upon their husbandry, and turn the tide in their favor. They could then begin to hire more labor, and keep more stock, and have butter, cheese, pork, beef, mutton and wool to sell, instead of consuming every thing raised at home. The key to good farming lies buried in the compost heap. The man who finds it, finds comfort and a competence.

Dealing with Refractory Cows.

To the Editor of the American Agriculturist:

In the Feb. No. of the *Agriculturist*, page 40, I noticed the description given by Mr. Smith, of his way of subduing refractory cows, and which like many other methods I have tried. It may answer very well in some instances, but I have found no such process completely successful in mastering them, and forcing them to be quiet against their will. I believe that cows have almost invariably been taught bad habits by ill treatment; for I have found that when used carefully and gently, their troublesome dispositions have been so overcome, that they could be milked without difficulty. It will, however, require considerable care and patience with much caressing and gentle handling to make them quiet after they have once been spoiled.

The right way is to commence with proper

treatment from the first: accustoming them to being handled before attempting to milk them, and then when milking using great care not to give the animal any pain by jerking the teats or otherwise. In short if we expect good dispositions in animals we must show our goodness first.

SUBSCRIBER.

Northampton Co., Pa.

That "Western Grease."

To the Editor of the American Agriculturist

The anything but buttery epithet, of "western grease," that issues from the curled lips of the east, we can not quietly submit to. It comes defiantly, sneeringly, triumphantly. It stares at us from market quotations, private letters, second and third rate newspaper articles; and even ekes out its vengeance, in dairy prize essays, published in one of the first, and most influential agricultural papers of the day. (See the *American Agriculturist*, for January 1859.) We can not swallow that "western grease" without a wry face. A prize essay, carries weight, ergo, we are crushed into a "Grease Spot." But though crushed, we still squirm. That eastern butter and cheese elysium can not hold us all, can not butter us all—consequently, we shall butter ourselves as well as we can. I am fully conscious, that I am playing with fire, and may get burnt. Our grease may float out of our state, to the eastern cities; but our butter remains at home. Chicago, Milwaukee, in fact all our cities sift and cull their butter, then cull and sift it, and the refuse, finds its way to the eastern cities, as a last resort. No wonder you lift your hands in holy horror, and ejaculate, "Grease!" As well might California, nervously expectorate; and cry "eastern grease!" at the recent importation of the refuse butter of the New-York butter merchants. Ought all to be condemned, in toto, for the sins of a part? We answer—emphatically, No:

I find it a very easy matter to say that we make good butter here; but it can be proved equally easy, if the assertion be doubted. It is also true, that large quantities of good butter are made. And furthermore, a first rate article of butter, has been, is, and can be made, here in the West. To compete for the palm, with the East, is not my present object; although I should not object, at a proper time, under fitting circumstances, to institute a test, in comparison of the two: to try the respective merits of each. Now for the poor butter, and its reasons.

In admitting one half to be poor, we are liberal. Our population is a little mixed. Yankees, English, Dutch, French, Irish, in short every nation under heaven has its representatives here; most of whom are young, and inexperienced, in dairying at least. Many of them, are as ambitious, as they are young, and plunge headlong into the butter jars, if they can only see the shillings lying on their bottoms, and of course "grease" is the result. Want of buildings for dairy purposes is another fruitful source of poor butter. But the idea of being condemned by eastern dairymen, will not do. Did they, in their trials, fit themselves up with all the paraphernalia, of a first class Dairy? Had they provided themselves with first class cows and proper stabling for the same? Did they have the pasture lands, of 200, or even 50 years, standing, which they esteem as requisite? Had they studied the effects produced upon milk, cream, butter, and cheese, by the ever changing temperature of the weather? If so, when, where, and by whom?

I advise our farmers, one and all, to take the *American Agriculturist*, and secure to themselves,

the value of that excellent series of articles on dairying, for the current year, which is being published. Commence with the January No., read with care, and apply the knowledge gained therefrom, in improving your grass lands, your stock and buildings, and then take the directions for making butter and cheese, go carefully to work, be neat in all your operations; if you make a blunder to day, mend it to morrow. Strive to make a first rate article; it may cost more labor, more time, but it will pay in the end. Do not be afraid of what you call "book learning;" that is nothing more nor less than the practice of some of our best, and most successful farmers. If you make butter, make it the best you know how; and you may rest assured, that if we all do our best, we shall rub out that "Grease Spot." I would simply say, that with us, white clover is indigenous to the soil. It mats our road sides, steals into our pastures, and meadows (a welcome little thief) and through the Honey Bee fills our hives with choice honey. Red clover, timothy, red top, all do well, especially on openings, and timber. Carrots, mangel wurtzel, parsneps, etc., also flourish finely. Sowed corn and millet grow in great luxuriance, for green feed; and corn produces well. Why can we not make good butter and cheese here at the west? I answer we can.

Lake Co., Ill.

D. G. SMITH.

Written for the American Agriculturist.—Prize Articles.

The Dairy.....IV.

PARTURITION.

We now come to the dairy season with its labors and cares in the Spring of the year. The cows are dropping their calves, and for their accommodation in this trying time a convenient hospital, or calving room equal in area to ten feet square should be provided, secure from all outside intrusion, adjoining the stables, from which the cow about to calve may be taken, so as to be free from disturbance until safely delivered. This is also necessary, as sometimes the cow needs assistance, and should be carefully looked after. The floor of this room should be thinly littered with cut, or broken straw, to keep it clean and dry. As soon as the calf is dry, the cow should have a pail of warm water, with a handful or two of Indian meal, or bran, and a spoonful of salt in it, which she will readily drink. Let the calf, as soon as inclined, suck all the milk it will, and what remains draw away carefully with the hand, perfectly clean, and pour into the swill-barrel. It is only fit for the pigs. As soon as the cow is all right again, she can be put into her accustomed stall and fed as usual with the others.

As to the calf, we shall not decide what is to be done with it. The dairyman knows best—killed probably, as this is simply a business of economy, and pecuniary calculation, and veal seldom pays in dairy districts. The calf, if not to be reared, should be kept full thirty-six hours, and suck the cow at least three times, so that all fever shall get out of the udder before the milk goes into the dairy. As, however, we have elsewhere recommended the rearing of his own cows by the dairyman, the heifer calves so to be reared should be selected immediately at their birth, and after three or four suckings of their dams, be introduced at once to the finger and bucket in the way of feeding. Cows will mourn the loss of their calves, as a matter of course, more or less, but kindly usage soon reconciles them, and in two or three days they go on as usual.

If, on the dropping of their calves, the cows are not in full pasture, a little extra food, as a mess

of roots night and morning, or a few quarts of bran, or ship stuffs, should be given them, as the sudden change of habit consequent on parturition demands more generous food for a few days, until the regular secretions of milk are in full flow. It is sometimes necessary to milk the cow before calving, from the rapid secretion of milk in the udder; and if such be the case, milking should always be done, thus relieving the cow of intense pain, and her udder from caking, swelling, and fever. We have frequently had to do so when the grass was abundant before calving, and greatly to the relief of the cow, and the profits of the dairy, while we never knew any ill effects from the practice. All this kind of management, should be familiar to the experienced dairyman, who ought to know thoroughly how to manage as the cases may occur; for, let it be understood, the "trade" of a dairyman is just as much a trade, or profession, as any other pursuit, and can only be successfully pursued after a thorough experience not only in theory, but by handling the tools, and going through all its manipulations as a laborer in each and every department.

MILKING.

We now come to the more laborious operations of milking the cows, and making the butter and cheese; a word or two, however, as to the milking labors and process. We have stabled our cows throughout the Winter, each in her own separate stall, and as the pasturing season commences, we shall not, as is the custom of some heedless dairymen, turn them into a filthy yard at night, to be chased around, and hammered with milking stools because they do not for the moment quietly submit to the rough usage oftentimes given them, or driven into a fence corner where, frightened and trembling, their udders are drawn, often painfully to themselves, and the milk fevered by abuse.

When driven in from the pastures at night, every cow should be thoroughly secured in her own stall, quietly and kindly. Thus secured, a vicious cow is manageable in one way or another, and all the others will cheerfully yield their milk. My own rules for milking are as follows: Let every milker have his, or her own milking stool. Let every pail be perfectly clean. No talking among the milkers when at work. If a cow is restive, sooth her with kind words, and a gentle patting of the hand on her sides, and a soothing rubbing of the udder and teats. Milk rapidly with both hands. *Milk clean*—every drop which can be drawn. Each milker should have his or her own cows, for they get accustomed to a particular hand, and yield their milk more freely to a friend than to a stranger. As soon as the cows are all milked, turn them out, unless in cold rains, when they are better to be kept in the stables with a little litter to lie upon, and keep them clean; give a fodder of hay for the night, which they will always relish. I name the hay, presuming that every good dairyman, unless in extraordinary seasons, will have some left after the foddering season is over. If the weather be good, the cows should be turned out as soon as milked, and put into a clean and roomy yard for the night, or turned again to the pasture as circumstances may determine. *Regularity of hours* should be observed as near as possible in the times of milking, as the secretions of milk in the cow go on regularly when she lives quietly, and as the milk is drawn twice a day, the times of taking it should be as equally divided as possible.

MANAGEMENT OF THE MILK.

As soon as the milk is drawn and the cows turned out, the milk should be taken to the milk

room or cheese house and well strained into clean shallow tin pans, if for butter, holding six, eight, ten or twelve quarts each, as may be most convenient, about two thirds full, and set on clean, cool shelves, either of stone or wood (if of the latter they should be slatted for the air to circulate under the pans moveable, so as to be taken out occasionally and washed), and the temperature of the atmosphere kept, if possible, not less than 45°, nor above 55° or 60° of Fahrenheit—such temperature being the best for the rising of the cream. A half cellar—say 4 feet under ground and 4 feet above it, with good stone wall sides laid in mortar, well ventilated and whitewashed, and lighted with wire screened glass in movable sash, for admitting or excluding the air, dry and well floored is the best. The cheese room or house we will talk about hereafter.

As soon as the milk pails are empty, let them be thoroughly scalded and washed in soft, hot water, until perfectly clean, and then placed out of doors in the sun, if fair weather, or a slatted table to dry. The sun and air sweetens them. So with the milk pans, the cheese tubs and every other moveable utensil used for milk, butter, or cheese for be it understood that rigid cleanliness is the very first requirement in the dairy either of butter or of cheese. Soap of course, must be used, as there is no cleaning things without it, from the hands of the milker, to the scrubbing of every thing which milk, cream, butter, curd or cheese touches. No snuff-takers, tobacco-chewers, or others indulging unclean personal habits have any business inside the dairy rooms with such habits about them while there. If they must use snuff or tobacco, let it be outside not inside.

ARTIFICIAL TEMPERATURE OF THE MILK ROOM.

We have named 45° to 60° as the best temperature of atmosphere for the milk in cream rising, if possible to be had; but we are well aware that such low temperature is seldom obtainable in the Summer season unless by artificial aid. Fortunately our dairy districts are in northern latitudes where ice abounds, and is easily obtained in Winter. Therefore every large butter dairyman should have an ice-house well built, and of large dimensions.

[Pretty full descriptions of ice-houses of various kinds have already been given in the *Agriculturist*. A convenient form, Schooley's, is illustrated in last volume, page 120.]

When a Spring of clear cold water is accessible near the dwelling, the milk room can be built enclosing it, and the water made to flow over the stone shelves, or floors on which the milk pans rest. If no spring can be brought to aid the milk room, an ice-house should certainly be attached, to cool the water for working the butter, and the butter itself when worked, or the entire room if possible, in case the temperature can not be kept low enough without. The ice will pay in any event, in one use or another which will be required to aid the work in the dairy operations.

MANAGEMENT OF THE CREAM.

In a good milk house, the cream will rise in thirty-six to forty-eight hours, depending on temperature. After the milk sours or thickens, no more cream will rise, and it should then be skimmed with a tin skimmer, and set away in a clean stone jar, closely covered, and churned within a day or two, or daily, according to the size of the dairy.

It is the practice of some of our most successful dairymen to churn the entire cream and milk together, turning the contents of the pans into the churns without separation. It is not claimed that this process yields more butter than that of

churning the cream separately, or that the butter is of better quality, the mode being simply one of convenience or habit. That of churning the cream only we consider as less laborious, from the lessened quantity of material to be moved in the process. The proper temperature for churning is about 60° Fahrenheit, and a thermometer is necessary to regulate it when sufficient practice does not enable the dairyman to judge correctly as many experienced ones can do. The churning should be done regularly, and with a moderate stroke or revolution as the form of churn used may determine, and occupy from three quarters of an hour to an hour and-a-half according to temperature.

We will speak of churns in our next.

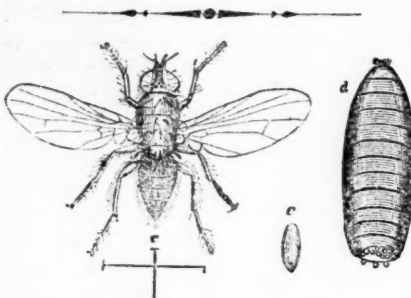


Fig. 1.

For the American Agriculturist.

The Onion Fly.—*Anthomyia ceparum*.

In traveling through the County of Essex, (N. Y.) a short time since, particularly along the beautiful plains in the vicinity of the Au-Sable River, I had my attention repeatedly attracted to the withered and sickly appearance of nearly all the fields of onions, through which I passed. Upon enquiring the cause, I was invariably told, that it was the effects of a worm, and that it was extremely doubtful if a single tuber in a healthful condition would be obtained in a hundred plants. This excited my curiosity, and on raising the bulbs from the earth, I had little difficulty in recognising the larva of a Dipterous (two-winged) insect, belonging to a species which in England, as well as in many other parts of Europe, for the last twenty years, have almost entirely destroyed the onion crops, upon the cultivation of which so considerable an amount of labor and experience have been expended. To such a degree have their ravages extended in those countries, that the



Fig. 2.



Fig. 3.

husbandmen have been driven to the necessity of abandoning the culture of this important vegetable, not having yet met with any efficient remedy for the destruction of their enemy.

Much uncertainty still seems to prevail among entomologists respecting the peculiar habits and instincts of this little depredator, and we greatly fear that they will long remain in ignorance, unless some interested and intelligent individual, residing on the spot, and having daily access to the plants, shall establish a series of practical observations on their habits, and in this manner, trace them through their various stages of existence, up to the perfect fly. Until this is accomplished, and not till then, will we, with any degree of cer-

tainty be able to suggest any reasonable method for effectually removing them. If it be not done speedily, a knowledge of the prolific manner of their increase, makes it probable that they will, in the course of but a few years, spread over the whole country, and almost, if not entirely, obliterate this highly useful vegetable from our gardens.

This insect depredator is, I think, undoubtedly the *Anthomyia ceparum*, of Meigen, or a species so closely allied, as to differ but little from it in any of its habits.

It is shown at *c*, fig. 1, somewhat magnified, the actual length being indicated by the perpendicular, and the spread of the wings by the horizontal line, below the cut of the fly; *c* and *d*, same fig., show the pupa, from which the insect emerges, *c* being the natural size, and *d* magnified. It belongs to the second general division of the *Muscides*, that of the *Anthomyzides*, which is composed of species, all of whom have greatly the appearance of common flies.

The larva of this insect *a* in fig. 2, is about $\frac{1}{4}$ of an inch in length, fleshy, and of a white color. It is of a conical form, with a smooth and shining surface, and entirely free from any external superficial appendages. The incisions are finely granulate, and the last and largest segment is obliquely truncated at its base, upon which is placed a surrounding border of eight small knots, or projecting points, as seen at *b*, fig. 2, representing the larva magnified.

The female fly deposits its eggs on the base of the stem near the surface of the ground, which, in a few days become hatched, the larvae immediately penetrating between the leaves to the bulb, upon which it preys unseen; but the effects soon



Fig. 4.



Fig. 5.

become visible, for the leaves turn yellow, fall prostrate on the ground, and quickly wither away. These are shown in figs. 3 and 4. In the course of about two weeks they arrive to maturity, and change to the pupa state, fig. 5, and in from fifteen or twenty days more emerge the perfect fly, fully prepared to accomplish their depredations by depositing their eggs upon the more healthy plants. As many as from one to five of the larvae were frequently to be met with on a single plant.

The perfect insect is about half the size of the common house-fly, with a few thinly scattered hairs covering the surface of the body. It is of an ash grey color, the males being distinguished by a series of dark stripes upon the back. The head is marked with a brownish spot upon its apex. The wings are exceedingly transparent, exhibiting beautiful iridescent reflections from their surfaces, the shoulders of which are of an ochery-brown color, and the veins of brownish yellow.

This fly may not unfrequently be met with in the Spring of the year, basking in the sunshine about the windows of the neighboring dwellings. And from the circumstance of finding their larvae in the greatest profusion, committing their depredations in the middle and latter parts of August, we are inclined to believe that they pass through several generations in a season, and that they probably make use of the seed of the plant, on which

to deposit the egg for the larva of the ensuing Spring. If this be so, steeping the seeds in brine, before sowing, we should suppose would be the proper remedy; if otherwise, the process will not materially effect their germination. They appear to show a distinct predilection for the white onion, in preference to that of any other color.

This insect it is exceedingly difficult to destroy. Strewing the earth with ashes has proved of little avail; powdered charcoal answers a much better purpose, and is generally in use in this section of country, but it should only be thrown over about two-thirds of the bed, so as to leave a portion of the plants for them to resort to on being brought to the perfect state, and driven from their original resting place. When they have been converted to the larva state and commenced their depredations, these plants should be pulled up and consumed by fire.

It has been recommended to prepare the beds as early in the Spring as convenient, and suffer them to remain eight or ten days for the noxious plants to vegetate, then to cover them with straw to the depth of ten inches, and burn them over; after which plant the seeds for the ensuing crop immediately. This process it is stated, has proved perfectly successful in driving away the insects and insuring good crops, and in addition to this, has furnished a capital top-dressing to the soil. Onion beds prepared from the hearths upon which charcoal has been burned, have likewise been mentioned as producing the perfect vegetable, entirely free from the attacks of the fly.

Should the charcoal method here mentioned, be universally adopted, we have little doubt but that this insect depredator will in a short time become greatly reduced in numbers if not entirely destroyed, and afford a much better chance for a more healthful crop of the onion plants hereafter.—J.E.

Vermin.

It is a well-known fact that nearly or quite every living creature is subject to vermin of some sort. The huge elephant on land and the whale in the ocean, have each their parasites, while the very insects themselves are not free from the annoyance of still more minute creatures, who are sheltered beneath their scales, and prey upon their fluids. Minute as they usually are, they sometimes become a terrible pest; by their united attacks even sapping the vitality of the strongest animals. They appear to be a penalty attached to continued violations of the laws of cleanliness and proper modes of life, being almost inseparably attendant upon filth and its associate vices. Several diseases, as the itch in man, the scab in sheep, and the mange in cattle, horses, and dogs, are probably the results of the presence of insects working in the deeper layers of the skin; and hence their extremely contagious character.

The accompanying cut shows the appearance of the insect which causes the scab in sheep, (*Acarus scabiei*), which bears a general resemblance to most insects of this class. Fig. 66 represents the female magnified 366 times. *a* shows the sucker; *b*, *c*, and *d* the feet; *e* the tail.

Fig. 68 shows the male insect magnified. In fig. 67 the almost imperceptible white spots on the dark ground show the natural size of the insect.

It is somewhat singular, that poor, ill-fed animals are more subject to such pests than those which are generously kept. It may be owing to the fact that in such cases there is usually greater neglect in other essentials to health; or it is the more probable that an animal in good keeping is better able to ward off their attacks. How-

ever this may be, it is well nigh certain that want of care as to cleanliness, whether in man or in animals, will be followed by the "plague of lice."

Clean stables with the free use of the card on horses and cattle, whitewashed and thoroughly purified houses and roosts with plenty of ashes and dust for the poultry are the preventives. The cure, where they have once obtained a lodgment, is not speedy, though we believe the following have proved effectual where persevered in.

For lice on cattle, rubbing the affected parts

Fig. 66.

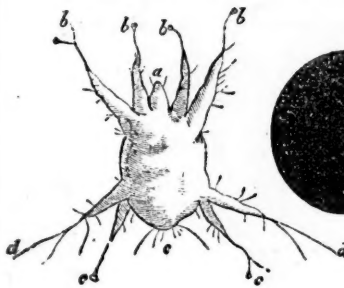
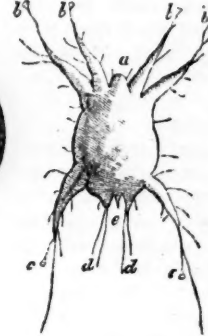


Fig. 67.



Fig. 68.



THE ACARUS WHICH CAUSES SCAB.

thoroughly with lard, and washing it out the next day with soft soap, will usually expel them after one or two trials. For mange, powdered sulphur should be added to the lard. The scab in sheep has been cured, it is said, by first scouring off the scabs, and then dipping the sheep in a strong decoction of tobacco with a little spirits of turpentine well mixed in. For poultry, turpentine and water is recommended, to be applied to the feathers, but grease in moderate quantities is effectual. Too free use of it however, has killed the chickens as well as the vermin. If the roosts are infested, the poles should be taken down, and passed slowly through a fire, until every nit is thoroughly "done," and where portable nesting boxes, which are preferable, are used, they should be occasionally cleansed, by burning in them a little straw or other light matter. Ashes dusted through the boxes serve a very good purpose. The whitewash brush will finally rout the intruders.

Sheep ticks are pretty easily disposed of by the use of Scotch snuff mixed with lard, and rubbed along the back, the wool having been parted, or by dusting the hide with the snuff alone. When once the premises are cleared from vermin, let cleanliness forbid their return. *

Another Man's Mistakes about Bees.

In our Feb. No., (page 37), we had occasion to show some of the absurdities of the writer on Bees, in the new American Cyclopedia. Let us give one more illustration of what we were then aiming at. Chancing to take up the Boston Medical and Surgical Journal of 1854, a journal which, certainly should not inculcate palpable scientific error, we find a writer who calls himself, "*Apiarius Medicus*," (an apiarist and physician), who talks of an experience of 15 years in managing bees. The object of the article is to propound the author's theory concerning the sex of bees, the truth of which he thinks is perfectly clear. He says:

"I could not make it appear consistent with reason and the natural laws of creation, that such a numerous progeny of insects of any race could be produced by one female, impregnated by several hundred of males or drones according to the

common absurd theory; and I am still surprised that the credulity of man should be so long imposed upon, seeing the fact can be so easily ascertained. Under these considerations I began to investigate the subject in order to ascertain, if possible, which were the progenitors or males, and which were the females of the numerous colonies; and I have at last come to the satisfactory and unerring conclusion that the bee universally called the queen, is the male, and that the drones are females which produce all the young swarms." !!!

And this absurd conclusion, in defiance of Swammerdam's dissections and Huber's observations, and the testimony of careful bee-keepers,

and the prevalent judgment of competent men, is really bolstered up by the writer's observations and dissections. We are willing to think him honest; but he must have seen things because he wanted to see them.

His facts are, that on one occasion when he had put into a glass hive a small late swarm, upon introducing four drones, one after another, he saw the queen, which did not touch the second and third, take such a position in respect to the first and fourth only, as to convince him that the common impression about its sex was wrong. He says "this I saw plainly, so that there can be no mistake; and it satisfied me that apiarists and others are and have been laboring under a mistake in calling that bee the queen. It is a male bee, and should hereafter take the title of King; and the drones are females which lay the eggs." So here is a specimen of a hasty conclusion, not warranted by what he saw. From that single observation, in which he might very easily be mistaken, he drew the hasty inference that every body else was wrong, and that of course the drones lay the eggs.

Afterwards, wanting "to prove his theory correct," he dissected the queen and found something which he mistook for a demonstration of it; then he dissected drones and found eggs in some of them, but not in all. We do not doubt that his desire to prove himself right and every body else wrong, had more to do with his observations, than he supposed.

As for his facts, we will only express our opinion by an old Latin proverb, which says, 'Let the Jew, Appella, believe them; I don't.' And by way of advice to our readers, we will only ask them always to make a distinction between what they see, and what they think they see; especially when they are writing for the *Agriculturist*.

For the American Agriculturist.

Deep Plowing—When to Do It.

I am a practical advocate of deep plowing, having been engaged for several years past in deepening my farm, and having found it more profitable to add to my land in this way than by buying more acres. My deed runs down to the center of the earth, and I mean to make the most of it, and I have found that this also gives me another advantage, for the deeper I get my farm, the higher my grain grows, so I gain in both directions, and by this means I reckon I've got at least thirty per cent. more available space than formerly: at any rate my seventy dollars per acre land would now bring me ninety dollars—but I haven't got to the bottom nor top of it yet, and I mean to stick to it.

I have found by experiment that it is best to

run the plow deeper when raising oats and Winter grain, rather than when breaking up for corn.

Corn is an aristocratic plant, as you might know by its tasseled head, silk gloves, and long ears, and like such gentry it must have good nursing in the beginning, and the best living the land will afford. It sends its roots about, near the surface where it can find plenty of food, and where they can grow comfortably near the warm surface. If you plow deep enough to turn up the cold and hard subsoil, the seed planted at the usual depth will germinate where they meet with a cold reception, especially if the season be wet. Scarce any crop seems to be more benefitted by an early start, or to be more injured by a slow painful growth in the commencement. The young plants seem to be discouraged, and not having force enough to dig down to find a good living they are apt to grow up sickly.

In cultivating this crop I have therefore practiced turning up all the soil, gaging my plow to run just on the subsoil, and let the corn have the full benefit of the manure and clover which were plowed under. The corn crop is followed with oats, which can stand a wet and cold soil better. Then I drive the plow deeper, about an inch, as you recommended in your last number. The soil, mellowed by the previous hoed crops gives the oats a good chance, and they bear the subsoil mixture on the top quite well. The following crop with me is rye and seeded down with clover and timothy, especially the former. Now I give the gage another turn, and bring up say another inch of subsoil, and the rye and clover dig for their living—and mine—most admirably.

JONATHAN.

Written for the American Agriculturist.—Prize Articles

Farm Fencing.....IV

STONE WALLS.

Having sufficiently discussed hedges to show that in this country they are yet an enclosure of doubtful expediency, where years of satisfactory experience has not established their value, we proceed to the next most substantial and permanent fence—the stone wall. Of the policy of adopting the wall, the proprietor of the land to be enclosed must be the proper judge. It is a matter of dollars and cents in cost, as well as convenience in obtaining the material of which to build it. In a stony country, where either loose surface stones abound, or in quarries beneath the soil, the simple question of cost is easily settled, and the builder must be his own judge whether to use that material or not. As a general rule, loose surface stones must be picked up and carried away somewhere. The natural conclusion of the proprietor is to build them into fence, so far as fencing is needful, and they are of the proper kind for that object. We advise no man to build division fences through his fields for the simple purpose of getting rid of his superfluous stone. An unnecessary fence is a nuisance. The less fences the better, so long as the proper cultivation of the farm is accommodated. Better dig pits and bury them, if no better storage can be found, than to go into the extra expense of working them into useless walls.

Quarry stone usually make better walls than loose boulders of any size. They are more shapable, with flat surfaces, lie more compactly and evenly, and not so apt to fall, or be disturbed by frost, and where not too expensive, even if surface stones are at hand, are to be preferred. Yet surface and quarry stones do not always abound on the same premises, and the farmer is in most cases compelled to choose either one or the other.

In this his own judgment, and means must be his guide. Now, as to

THE MODE OF BUILDING THE WALLS.

In this the quality of the soil is to be somewhat consulted. The old fashioned mode has been to simply clean off the surface or turf, and then make the foundation of the wall of the same material as the whole structure. On many soils, after a few years, be the walls ever so well built, the frosts heave it awry, the stones become loose and displaced, and in a few years more they are in a state of dilapidation requiring constant repairs, and in frequent cases rebuilding in part if not altogether, although pronounced "a good job" when first finished. On light loams, sands or leachy gravels that mode answers a tolerable purpose. But all soils are not such. We have heavy clays, deep loams and moist or "springy" soils oftentimes to contend with.

The main rules, therefore, which we shall lay down for a permanent wall are—1st: A perfect drainage of the soil. If there be not a natural drainage, such as to permit no standing water on the surface; or at frost depth below, there must be an artificial one to such depth, so as to allow the accumulating water to freely pass off under the wall, that it be not affected by its action in a frozen state. Frost expands every thing it touches and its action is far greater in a wet soil than in a dry one. 2d. If the soil be heavy or a stiff clay, holding water, an ample ditch dug down below frost-level, should be thrown out, leading to lower levels and giving free passage for the water to a point where it can readily be turned off from the line of the wall.

Now, no matter whether the stones be surface boulders or quarried, this ditch should be filled nearly, or quite to the surface, with small or broken stones, compactly placed as a firm foundation. This preparation gives a perfect drain for the water beneath the small stones whether by rains, melting snows, or the issues of springs and keeps the adjoining soil in an equable condition Winter and Summer, while the earth at the bottom of the ditch is uninfluenced by Winter's cold or Summer's heat—like the cellar walls of a house. The provident owner, we premise, has already drawn his stones to the line of the wall and distributed them in proper quantity on each side of the line. To make the best wall, the two sides are to be simultaneously built, with a line on each side to work by, and if two good wall builders can work together, one on each side, the same length of wall will be better and cheaper built than if but one work alone.

In first placing the lines let them be eight inches or a foot above the ground strongly held at each end by a peg driven into the ground, that the first tier of stones may be laid below them. The width of the foundation will depend somewhat on the kind of stone, and the height of wall when finished. Quarried stone being better shaped, requires less width at the foundation than boulders. In the former the lower strata should not be less than two feet for a substantial wall, four and-a-half feet high. If five feet high, a four inches wider base will be needed. The wall should not be less than one foot wide at the surface in any case, for a good farm fence. With boulders, when stones are plenty, the foundation may be two and-a-half or three feet wide—and as much wider as you choose. The contraction of width should be uniform and gradual. Put in the largest stones first, making as close joints as possible, and if large gaps are left between, then fill them in evenly as possible with small ones, having an eye always to the importance of laying every stone so as to bind the wall together as firmly as can be done.

BREAKING JOINTS.

A farmer wanting a stone wall built, advertised for a man to take the job. A builder appeared. "How do you build a stone wall?" asked the farmer. "Why, by laying one stone on another." "You won't do for me," replied the other, and on the jobber went. Another came. "And how do you lay stone wall," again asked the farmer? "I lay one stone on the top of two stones," was the answer. "Very well then go to work." That is the main secret of laying a good wall, and with this part continually in mind a strong wall is easily secured.

In every successive layer as the wall progresses upward, put in enough substantial binders; that is, stones reaching through from one side to the other, and let the last tier of binders alternate between the binders below so that there be a continuous bearing throughout the whole line. As the wall works upward the line is to be shifted, keeping it always a little above the tier on which you are at work, still making the batten or indrawing course uniform, and reducing the size of the stones gradually if possible, and holding on to the abundant distribution of binders but keeping the stones sizeable.

As the work goes on, two, three or four common laborers can be profitably employed in heaving over and lifting the stones from the adjoining heaps to the builders by which their more valuable time may be devoted altogether to laying them in on the wall. A little practice will soon enable any common hand to select the proper stones to come in as wanted. Even one experienced wall builder will make a good job by having a handy common laborer with him on the opposite side, with others to hand them the stone.

If the wall be on a side hill, a broader surface will be needed on the down hill side, but they must be laid flat, and worked in with a regular batten. If the line of wall runs down hill, the ditch or bottom should be made in short steps, so that the foundation be always on a level. A canting stone is easily displaced, therefore every one should lie in a horizontal position.

Each wall builder should have a short crow bar three and-a-half or four feet long, and a good stone hammer at his side for occasional use in knocking off an ugly corner, or splitting an ill-shaped stone to make a perfect job. As the wall approaches completion let the stones be more sizeable if possible, than further down, as they give it a more finished appearance; and if the top is to be a smooth and level surface, a tier of thin flat caps, if to be had, should make the finish.

In fields where breachy cattle, sheep, horses or mules are to be kept, some people adopt stakes on each side of the wall, with a rail or two on the top. This looks bad and unsightly—temporary too, and may be obviated by placing a continuous *chevaldefrise* of these quarried stones set edge-wise a foot apart, letting them down between the cap stones four to six inches each. We have seen long lines of this kind of fence in Central Kentucky around their mule pastures—a most breachy animal. The walls there are of quarried stone chiefly, and built about five feet high, in the most substantial manner—apparently for ages.

Thus we have a complete stone fence. Those who only want a half wall, with a rail top, can make their own choice: but in no case should the wall part be slighted, or left to chance. Every part should be well and thoroughly done.

As to cost that will depend on circumstances, how much, if any ditching, the convenience of the stones before drawn for the wall, and the kind used. A dollar at the least, to two, or two and-a-half dollars a rod at the outside, and the farmer

can go to sleep for a life time in the security of his fencing.

We may add that where the wall foundation is laid on the surface of the ground, a plow furrow within a foot of the wall, if possible, with the earth thrown up against the base, is all the better for the wall, thus enabling the surface water to pass off without getting into the foundation.

There are some incidental items which we might name in further connection with the subject, but they would be so incident to individual, or local control that they may as well be left to the judgment of the proprietor himself.

Healthy Stables.

To be healthy, stables should be warm. Large cracks in the floors, large holes in the siding, or broken windows near the stalls, do not promote warmth or health. Stalls on the north and west sides of the barn should be made with double outside walls, and be filled in with tan-bark, saw-dust, or other non-conducting material.

Stables to be healthy should be well ventilated. In their desire to make their horses and cattle comfortable in winter, some farmers keep every window and door and opening closed as tight as a bottle. They forget what foul deposits are being constantly made on the floors of the stalls, and what rank and pungent odors are continually rising into the mouths, nostrils and eyes of the poor animals, and from which they cannot escape. If such persons would notice, particularly on opening their stables in the morning, what a powerful stench fills the air, they would view this matter differently. And if this did not open their eyes, let them be tied up in their own stables twenty-four hours. Their nausea, burning eyes, and inflamed lungs would convince them that their animals had a hard time of it, and that it was wonderful they did not all sicken and die.

It is not the easiest matter to secure these two conditions of a healthy stable, and at the same time, warmth and pure air; but something can be done towards it. The stalls being well built, as we have mentioned, air can be introduced gradually through open windows in a distant part of the barn. The impure air can be carried off by ventilators on the top of the building. And last, but not least, the stalls can be kept clean, and the floors daily sprinkled with gypsum or saw-dust, to absorb the liquid manure and foul odors.

Luck and Pluck.

Every community has its "lucky" man. The boys in the street know him, and point him out as he passes, the admiring crowd lift their hats to him, the unsuccessful envy and perhaps traduce him. Success seems natural to him. If he was not born with a gold spoon in his mouth, he has long since exchanged his wooden one for it. Every thing he touches seems to turn to his advantage. That farm he bought a few years since, would now sell for double the money. If there is but one good crop raised in the town, you will be sure to find it in his fields; and then what prices his produce always brings him. Depend upon it, there's something in it, "he's a lucky man."—This is the outside view, and a most pernicious one. Let a man "curse his stars," complain of his hard fate, and sigh and wait for luck; let him feel the conviction that success is something indefinite, uncertain, which may or may not follow effort, as a kind of mysterious, uncontrollable chance may direct, and it is not difficult to predict his future. His stars will all be unlucky;

the golden comet with its splendid train of glorious results, for which he looks, will never be seen above his horizon.

The man of "luck" is a man of "pluck." We like that word. It is solid and yet elastic. It has a ring like steel. It tells of a man who does not know when he is conquered. If the backward Spring disappoints his calculations for a large corn crop, he is sure to have a fine field of buckwheat; or if this fail, he rejoices in a fallow ready for a notable yield of Winter grain. If debt presses heavily upon him, it but bends him more closely to his work. But more than all is the "plucky" man distinguished by venturing boldly when there is a probability that success may be attained. Scarcely a man of fifty years, but remembers the time that success was within his reach, had he possessed nerve enough to break from his old routine, and follow the opening; while many a "one" has been deterred from competence and even fortune, by timidly adhering to "good old ways," good—only in age. The cultivator especially, who hopes to succeed now, must have not only the energy which rises against opposition, and bears up under misfortune, but also the enterprise which looks for and adopts improvements; and there never was a time when such enterprise had surer promise of success, for never before were improvements, both in the manner and the implements of cultivation, more marked and abundant. The plucky man of to-day will be the lucky man ten years hence.

American Fruits.—Past and Present...II.

BY LEWIS F. ALLEN—ERIE CO., N. Y.
(Continued from page 82.)

THE PEACH.

From being an almost universal fruit a hundred years ago, in most localities from latitude 43° north, down to the Gulf of Mexico, the peach now flourishes and bears fruit successfully in but few sections and these favored by influences not always understood. In the early settlement of the timbered country throughout the States, with the exception of Northern New-York, Vermont, New-Hampshire, and Maine, peaches even of the choicest varieties grew, flourished, and bore abundantly; and now, where it has scarcely grown within the memories of middle aged and of old men, traditional tales are current of the wonderful crops which their grandfathers and fathers gathered. For their disappearance no absolute or conclusive reason is given, other than that the old, or first planted trees, after flourishing twenty, thirty, or forty years—which latter age many individual trees were known to reach—died out, and the young orchards which replaced them, would not live, or, if living at all, they declined a few years afterwards, until after repeated endeavors at their cultivation, they were abandoned in despair. Even where no sane man would now think to plant a peach—in cloggy, clammy, and cold soils; high and bleak exposures; low, frosty valleys; open plains—all alike, once bore the peach in high quality and abundance. Now, nobody is bold enough to plant a peach tree except in a warm, sandy, or gravelly loam, in the vicinity of large bodies of water, which wards off the earlier and later frosts, or in some genial locality, forward far beyond others in its immediate neighborhood, in atmospheric influences. It is needless to particularize. Such is the known fact throughout all our States. One would suppose that where the wine-grape abounds, as among the Ohio and Kentucky hills, about Cincinnati and other vine districts, the peach would grow equally well. There are

some peach orchards thereabouts, but their owners tell us, if they get a good crop once in four years, it is quite an average of their production.

In private gardens, closely sheltered, the peach is frequently produced in localities, outside of which it utterly fails as an orchard fruit, only showing an exception to the general rule. And for all time to come, we fear, unless some extraordinary atmospheric change shall take place, our once favorite homes of the peach will scarcely know it again. Yet so delicious is this fruit, and so readily in point of time does it bear, if it bear at all, that so long as the slightest hope of success remains, every lover of its excellence will strive for its production as a luxury for his private table, even when abandoning it for market cultivation.

The present best peach growing soils for market purposes, are in the vicinity of the Chesapeake and Delaware bays, in Virginia, Maryland, and Delaware; in that part of New-Jersey lying south of the Camden and Amboy Railway; and in the westerly part of Long Island, near the Sound, with perhaps a narrow strip on the south border of Connecticut, near the Sound, and possibly a few miles in small localities, scattered along up the Hudson river, half way to Albany. From this point westwardly across the State of New-York, until a line is met running south fromodus bay, on Lake Ontario, a peach tree is scarcely to be found. West of this line, on a strip extending south a dozen to twenty miles to the head of Lake Ontario, the peach grows luxuriantly. Then southerly, skipping the table land of the eastern end of Lake Erie, upward, west to near Erie in Pennsylvania, on the Lake Shore, and from there to Toledo near its western extremity, and thence northwardly, in Eastern Michigan, to about the latitude of Detroit—are the localities now embracing pretty much all the peach-growing soils for market purposes, to be found in the Atlantic and interior country of the middle and northern States.

Why the finest peaches should grow in abundance within a mile or two of Lake Ontario, in the comparatively cold latitude of 43°, equally as well as in the sunny soils bordering the Chesapeake in 39°, while the intermediate back country south, all the way to the Potomac, should either not grow the peach at all, or but fitfully, is one of those strange phenomena in nature, for which it is not altogether easy to account. But such appears now to be the fact, although they once grew and flourished over a considerable portion of it. There are some other points contiguous to those named, and connected with them by elevation, depression, streams, or lakes, which, perhaps, are equally favorable for peach growing, but the lines of country enumerated are mainly those which now furnish our northern peach markets. Even some of them are said to be failing, and it would be nothing stranger than what has already happened, if the peach should altogether desert these favored soils within the next twenty years, while other places, extending over wide belts of the country, should once again grow the fruit in perfection.

The peach is probably the most fitful in growth and bearing, within our whole circle of Northern fruits; and I take leave of it, advising every one who owns a spot where it will grow and bear, without costing a great deal more than it comes to, to attempt and persevere in its cultivation.

THE PEACH.

As the pomological reading public have already had a surfeit of this subject from my own and other pens, I choose, at present, to say nothing further about it, but will proceed with the Plum, whenever space may be afforded in your columns.



A PRIMITIVE PLOW.

Engraved for the American Agriculturist

The above beautiful engraving, from a picture by Le Jeune, has a double signification. Here are simple, innocent, smiling children, imitatingly and sportively drawing and guiding the cleft branch over the soil. Love and peace are breathed forth in the landscape, while a calm sky, leafy verdure, and a balmy stillness pervade the tranquil scene. The healthful countenances, and the well-developed limbs of the children show forth admirably the healthful effects of their out-door active exercises. Who could think of caging these innocents in a nursery hot-bed, or binding their limbs and bodies in close-fitting fashionable attire? Children are very imitative in their habits—even to their sports. The boys in their way are farmers, or mechanics, or traders; and the girls are house-keepers, nurses, seamstresses, etc. The wise, foreseeing parent may give direction to the future inclination and occupation of the child, by a little judicious fostering of the first sports of the little four-year-old. We believe there is great advantage resulting from alloting each child—boy or girl—a plot of ground over which he or she shall have entire direction and control, and enjoy the resulting products. A taste for rural pursuits will thus be early cultivated. The moral advantages are incalculable. The child, with its own plot of ground, will scarcely neglect it to engage in rude play with vicious associates.

A second thought carries us back to the rude implements of the primitive cultivators of the soil. The play-plow of these children is not at all unlike the first implement used for scarifying the earth's surface, preparatory to sowing the seed. It was simply a bough of a tree with two branches left long for handles, while the numerous limbs around the main bough were cut off two or three inches in length and sharpened so that when dragged along they should break the surface. The next advance was to call in the assistance of beasts of burden to propel the implement, and these were attached to the plow by thongs fasten-

ed to their tails. A later improvement was the formation of a beam and handle from a bough, with a single branch projecting below for a plow-share and point. More than four thousand years passed away before a better implement was contrived. Wooden mold-boards, sometimes pointed with iron, were in general use until almost a quarter of the present century had elapsed. Indeed, there are few of us who have lived beyond half the allotted age of man who can not well remember the first introduction of iron and steel mold-boards, shares and points. Thirty years ago there were scarcely a dozen patent iron plows in existence. Now they count by hundreds, and the shrill whistle of the STEAM PLOW already begins to reverberate over our valleys and prairies. With what sort of an implement and by what power will our children break up the soil?

How Long will Trees Live?..II.

(Concluded from page 81.)

In our last we showed that, theoretically, a tree might live an indefinite period. Those parts of a tree which carry on its life-processes are annually renewed; and if certain parts, (as the interior,) decay, other parts are augmented, and the tree as a whole continues to live and grow. So much for theory; and we shall soon adduce some facts to sustain it.

But there is another side to this question. So far as theory goes, the human body is the same in its constitution as when it lasted eight or nine centuries; but the stubborn fact is, that "the days of our years are three-score and ten, and if by reason of strength they be four-score, yet is their strength labor and sorrow, for it is soon cut off, and we fly away." We occasionally meet with a man whose life has been lengthened out to ninety or a hundred years. Nature's laws seem to work regularly yet; he eats, drinks and sleeps about as well as ever; and no one can see why he may not live for an indefinite period longer.

Yet, every body knows that this is an exception to the general rule. And soon, close observation shows that slight inroads begin to be made upon his constitution. He takes a little cold, or his digestion becomes impaired, or some other ailment sets in, and he suddenly dies: nature could hold out no longer. Theoretically, he should have lived on for many years, but another law prevailed, and he died. So in the vegetable kingdom; by theory, a tree has no assignable limit of life, but practically, it has. Cases of extreme longevity may be cited, but they are rare exceptions, and even these trees finally perish.

The biography of many an old tree is like this: The tree grows to its allotted height, then expands laterally, both in its branches and in its girth. After a period, it begins to die at the center. The rotten portion within increases faster than the new wood is formed outwardly. The tree, though now old and hollow, still looks healthy. [It represents the vigorous old gentleman of eighty years.] At length, the strong winds sway it about, and rack it violently, and a fissure is made somewhere in trunk or branches, into which air and rain soon penetrate. By and by, the decay of the center crops through the bark near the ground. [The old man takes a cold.] The leaves expand every Spring, but the rot in the trunk annually increases; limbs decay and are blown off, one after another, until at length the rot extends all along the trunk, and before many years, a gale prostrates the old tree upon the ground, a total ruin. [The aged man dies, a hundred, and ten years old.] Now, theoretically, that tree ought to have lived, but another law supervened—call it by what name you please—and the tree succumbed.

There are several ways of ascertaining the age of trees. One is, by measurement of their girth at a fixed point near the ground; but this is not perfectly reliable, as some species grow more rapidly than others, and among the same species, difference of soil and exposure produces differ-

ence in vigor of growth. Yet an approximation may thus be obtained. The "Washington Elm" at Cambridge is supposed to be upwards of 140 years old, because it is known that the celebrated Whitefield preached under its shade in the year 1744, more than a century ago. The Aspinwall Elm, at Brookline, is known from historical data, to be about 200 years old. The great elm on Boston Common, is believed to be of about the same age. Now of these trees, the first measures 14 feet in girth, at four feet from the ground, the point where the girth is not affected by the expansion of the roots below or of the branches above. The second measures seventeen feet at five feet from the ground; and the third, sixteen and a-half, at the same height. With such data, one can go about the country, (as the "Autocrat of the Breakfast Table" has done,) and with tape-line determine the age of trees pretty accurately.

Another method is by counting the annual concentric layers of a tree. (Of course, the palms and their allies are excepted here.) But this can not well be done without first cutting down the tree; and even then, the center of many old trees is found rotten or hollow, so that a little *guessing* has to be resorted to. When the tree is sound, and the rings can be accurately deciphered, this mode is perfectly reliable.

But the age of old trees is perhaps most commonly arrived at, wholly or in part, through historical evidence or tradition. Some of the most remarkable cases of longevity which have met the writer's notice, are the following: An oak lately cut down, in Poland, was found to have 700 distinct rings, and the hollow center of the tree was estimated to represent 200 years more.

A Sycamore-Maple now standing near the village of Troun, among the Alps, is estimated at 550 years old. It is known that the famous "Grey League" was ratified beneath its spreading branches in March, 1424. It must have been a century old then. There is a remarkable Linden in Neustadt, Wurtemberg, which was so noted in the 13th century as to be called, even then, "the Great Linden." An old poem, dated 1408, mentions that "before the gate of the city of Neustadt, rises a Linden, whose branches are sustained by 67 columns." These columns were pillars of stone set up to support the immense branches, one of which extended horizontally more than 100 feet! At the last accounts, these columns had increased in number to 106. Its age is computed by scientific men, at about 820 years.

The celebrated "Tortworth chestnut," is considered the largest and oldest tree in England. In the reign of Stephen, which began 1135, it was then remarkable for its size. It is now 55 feet in girth, at five feet from the ground, and is probably a thousand years old. One of the oldest Oaks in England, is "the Parliament Oak," in Clifstone Park, so called from a Parliament held under it by Edward the 1st in 1290.

We lately read of an immense oak near Cozes, in France, with a circumference at the ground, of 90 feet. A room had been cut out of the dead wood of the interior 10 feet in diameter and 9 feet high. A round table has been constructed in the middle about which twelve guests can easily sit. It is believed to be upwards of 1500 years old. The Charter Oak, at Hartford, was probably a mere sapling when this country was first discovered. The famous "Wadsworth Oak," near Genesee, N. Y., has been estimated at about 500 years old.

The Olive-tree attains a great age. One lately cut down near Nice, in Italy, showed nearly a thousand rings. Of the few now standing on the Mt. of Olives, tradition may not greatly exagger-

ate in making them 1800 years old. The cedars on Mt. Lebanon, which the monks of the neighborhood declare are as old as the time of Solomon, are undoubtedly a thousand years of age.

There is a venerable Cypress-tree in Somna, Lombardy, which the inhabitants declare was planted in the year of our Saviour's birth. Napoleon changed the line of his great road over the Simplon, in order to avoid injuring it. Mr. Loudon cites an ancient chronicle to prove that this tree was in existence in the time of Julius Cæsar!

The Yew is the longest lived tree of northern Europe. Several specimens at Fountain's Abbey, in Yorkshire, England, are believed to be 1215 years old. The famous "Darley Yew," in Derbyshire, is 1350 years old.

The North American Cypress attains great age and size in Texas and Mexico. A writer speaks of some near the ruins of Palenque, "which claim a higher antiquity than the broken walls they overshadow." One at Montezuma is held to be about 2000 years old.

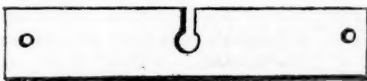
There is a renowned Dragon-tree on the island of Teneriffe, which Humboldt visited, admired, measured and painted a picture of, and which has been an object of reverence by the natives for many centuries. At the discovery of Teneriffe, in 1402, it was nearly as large as now. Botanists almost fear to say how old it may be; and only declare "its age is such as absolutely confounds the imagination."

A curious rose bush is shown in the crypt of the cathedral of Hildesheim, in Germany, which authentic documents declare was planted by the founder of the church, 800 years ago; and it still flourishes and blooms!

And finally, it is soberly declared that there is a Baobab-tree, on the banks of the Senegal river, which is believed to be upwards of 5000 years old!

How to Plant Trees in Straight Rows.

Good apples, pears, or plums, will undoubtedly grow upon properly managed trees, whether they be set out in squares, triangles, or *scattering*; but the orchard certainly will look better when regularity and uniformity are preserved, the trees all upright, and the rows straight. Accordingly, in setting out young orchards, much care is or should be taken to secure this end, by laying off the rows with a line, setting stakes where it is intended to place the trees, and employing a man or boy to hold the tree erect while planting. It is, however, quite troublesome, after the hole is dug, to find the exact spot where the stake was set, as it requires much time and many steps to "take a sight" with the ranges, and also makes it necessary to have an additional hand. This difficulty is obviated by a simple contrivance described to us by W. T. Wynkoop, Jackson Co., Iowa.



It is merely a strip of board, about eight feet long, with an opening from the centre to one side large enough to admit any tree for planting, and having also a hole, say of an inch in diameter, near each end. It is used thus: The ground having been staked out in the usual manner, the board is placed with the center opening over a stake. Now insert two small pins in the ground, through the openings in the end, and lift the board, leaving the pins in the earth.

The hole may now be dug, and when completed, the board replaced over the end pins. The opening in the centre shows the exact place the stake occupied, and the trunk of the tree being

introduced through the side opening, will be held where you want it, while the hole is being filled, thus greatly facilitating the work.

If the trees to be planted are not very nearly of the same size, it will be well to drive a nail in the board near the centre opening, and attach a strap to it, which can be passed around the tree and fastened upon the nail, by holes arranged at short distances along the strap. This will hold the tree upright while filling in the earth—without the help of an extra man or boy. The board can be prepared in a few minutes, and will be found very convenient, even when two or more persons are together.

Raising Evergreens from Seed.

In reply to numerous inquiries on this subject we say: As a general rule, the seeds of evergreens should be gathered in the Fall and kept dry through the Winter. On the opening of Spring, if they have not already fallen out of the cones, lay them before a moderate fire, when they will soon "shell out." Prepare a bed for sowing them, on the north side of a fence, or where it can be shaded during the middle of the day. The soil should be composed of one third sand, one third good loam, and one third leaf-mold from the woods, well mixed together. Sow the seeds in drills from half an inch to one inch deep, and cover up. Then sprinkle a little old tan bark, or leaf-mold over the bed to keep the whole moist. In dry weather, the bed should be sprinkled every evening.

Seeds of the red-cedar are sometimes a little obstinate to start. After passing through the stomachs of cedar-birds, they germinate readily. One can find thousands of little seedlings by the sides of fences where these birds congregate.

Nurserymen sometimes start evergreen seed by sowing them in shallow boxes in the Green-House, or under the glass of a hot-bed frame. But for all ordinary purposes, the mode first mentioned is the one commonly practiced, and is sufficient.

Planting Shade Trees.

The best season in all the year for doing this work, has again returned. Trees have taken their winter rest undisturbed, have gathered up new forces in root, trunk, and limbs, and are now ready to exert them in making a vigorous growth. As yet, they are comparatively dormant. The kindly sun and the breath of the sweet south are beginning to arouse them, but they are not fully awake. Now then, is just the time to remove them to the places desired, where in genial soils they may grow and spread themselves abroad for long years, and gladden the eye of the planter.

Does anybody need exhorting to do this work? We can hardly believe it; though stranger things have happened. Friend, please take my arm for a short walk. Let us go up this street at the right; it is (stepping over into the month of June for a while) well-shaded, and will make a pleasant stroll for us. Glad it's shady, are you? so am I. What a good thought it was in Mr. Jones and Mr. Smith to set out these trees by the road-side! These men were not satisfied with adorning their own grounds; their taste would not be confined within their own fences, but spread itself abroad over all the neighborhood. Hence came this good road, and this well-made sidewalk, and these umbrageous trees. What an excellent monument have they erected for themselves! For a century or two, at least, these elms and maples will keep the planters' names fresh and green.—Yes, you are right in saying that a man who plants

trees by the roadside is pretty sure to be a genial sort of man, and a man whom his neighbors love. I hold, too, that it enhances the value of one's property to have the street well shaded.

This is my friend John Jones' residence, and as I have the freedom of the place, let us go in and range through the grounds. These elms standing like sentinels each side of the gates, look to be forty or fifty years' old, but they are not half that age. I saw them planted, and know that their wonderful growth is owing chiefly to the good soil he has given their roots to ramble in.

No, those are not "foreign trees." The first is the Tulip-tree, and the other is the Cucumber-tree, or *Magnolia acuminata*—both indigenous to this latitude. They are so seldom planted, I don't wonder you thought them exotics. Can anything be more admirable for a lawn than these trees, with such clean, handsome bark, and such magnificent foliage! Better, certainly, than the abele, locust, and ailantus. Let us walk on and look at the other trees. Here are American, English, Irish, Scotch, and Dutch elms, all good. Yonder are maples, horse-chestnuts, English lindens, Scotch larches, evergreens of all sorts; how charming they all look, dressed in their fresh green coats! I fancy Mr. Jones feels himself well paid for his labor, in the attractions of his home. His wife and children, too, how happy must they be to live in such a beautiful home! Their friends in visiting them, and indeed all persons passing along the street, must say to themselves, Mr. Jones is a sensible man, a man of taste, and one who knows how to find happiness in the world, as he goes along. Success to Mr. Jones!

Reader, let us break away from those happy June people, leaving them to stroll about a while longer in the shady grounds of Mr. Jones, while we go and plant trees in our own grounds and by the roadside, while it is yet April.

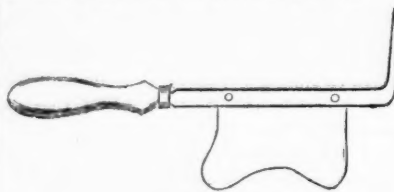
Hints on Grafting.

Grafting is performed on fruit trees for two reasons—to change an inferior to a better variety, and to hasten the fruiting of a young new seedling by inserting it into the upper branches of a tree already in bearing. It is also used to improve the appearance of both deciduous and evergreen shade trees, by engrafting upon a common or native stock a more ornamental, or a foreign variety of the same family. Most of the weeping trees now seen, with the exception of the willow, are ordinary stocks grafted with the weeping sorts at a point where it is desired they should droop. So also, many of the choice woody parlor and green-house plants, which are not produced true to kind from seed, are propagated by grafting them upon common roots or shoots of the same genus. Occasionally, several colors are engrafted upon the same flowering shrub, which gives it a beautiful, variegated appearance when in bloom.

But we propose now to speak chiefly of fruits, and give some plain instructions relative to grafting. We may here remark that, excepting in the case of the pear upon the quince and some of the tender stone fruits upon the plum, crossing families is not advisable although the pear has occasionally been made to grow and sometimes bear upon the apple, mountain ash and thorn.

The season for grafting is when the buds begin to swell in Spring, which, in this latitude, is from the middle of March to the last of April or later. Some varieties, such as the cherry, start very early, while the apple and quince are much later. In ordinary seasons we prefer the early part of April

for grafting the cherry, following up with later growing varieties. The scions should be cut in the Fall or Winter, or even early in Spring before the buds have swollen, and be kept buried in sand or earth in the cellar, or a dry sand bank. They should always be of the previous year's growth.



GRAFTING KNIFE

For tools, provide a fine toothed saw, a grafting knife like the one here shown when it can be had, a sharp pruning knife, a mallet, and a wooden wedge, and have ready prepared some grafting wax or clay, as described below. Of the various grafting knives in use, the above which we have had engraved for the *Agriculturist* suits us best. Attached to the handle is the iron frame or back turned up near the end and terminating in a wedge an inch and-a-half in length. Riveted to this is the thin steel knife, some $3\frac{1}{2}$ inches long, and 2 inches wide, with a keen hollowed edge so that in splitting the limb the outer wood and bark are first cut by the curve of the blade, leaving a smooth, even edge. After splitting about two inches deep by a blow from the mallet—the back piece prevents the knife from going deeper—withdraw the knife and drive the wedge in the center, and insert the grafts upon each side as shown in fig. 2.

There are several kinds of grafting, only two of which are here introduced as being the simplest and most commonly used. These are *cleft grafting* shown below, and *splice grafting* as seen in figs. 5 and 6. *Cleft grafting* is used upon the branches of large trees, and also upon stocks of seedlings one half inch or more in diameter. The limb or trunk should never be more than two inches through—one inch is better—since in the large limbs the wound will require a long time to heal over. Having sawn off the branch, pare the



Fig. 2.

Fig. 3.

Fig. 4.

top of it with a sharp knife, for a smooth cut heals over more readily and firmly than a rough or jagged surface.

Prepare the scions for insertion by searing them down to a thin edge as seen in fig. 3, making the cut smooth and true, and about one inch in length. These should be a little the thickest upon the outer edge so as to bring the bearing close to the bark where the union is to take place. The scions should only be shaved down as wanted for use that the cut be fresh. In length the shoots may contain two or three buds as seen in the figures—or when the variety is scarce, one bud will answer, leaving it near the top.

The essential point in grafting is to have the inner bark of the stock in exact contact with that of the scion.

The reason for this is, that the sap circulates up through the outer wood and down through the inner bark, and these two portions of both scion

and stock must be in contact or there will be no circulation. The failure to appreciate this point, is the main defect with unskillful grafters. To secure this, the bottom of the scion is sometimes pushed out and the upper part crowded in so as to have the bark on the shoot and limb cross each other, to insure perfect contact at some point.

Where the stock is sufficiently large two scions are inserted. If both grow one should be cut out the next season, or as soon as the wound is healed over. If the stock is not large enough for two scions, shave off one side, as seen in fig. 4, to facilitate the healing.

Grafting Wax.—Having inserted the grafts as seen in the engravings, cover thoroughly with wax made of, say: two lbs. resin, one lb. beeswax with tallow, or lard sufficient to leave it in a pliable state, and the whole is done. For a cement, some prefer 6 lbs. resin, 1 lb. beeswax, and 1 pint linseed oil. The essential thing is to have covering that can be worked into every crevice to effectually exclude air and moisture, and



Fig. 5.



Fig. 6.

neither crack in cold weather nor melt in the sun. Many old grafters still prefer a mortar of one third clean fresh horse manure, and two thirds clay or clayey loam with a little hair, the whole worked over with a hoe, adding water until about like mason's mortar. This is spread thickly on old rags and bound around the graft, tying with strings. The mortar should be pressed between the scions to leave no chance for air or rain to enter. It is more trouble to use the clay but the cost of preparing it is less.

Fig. 5 represents a seedling stalk and scion of the same size which are cut obliquely for splicing together. The slopes should be from $1\frac{1}{4}$ to $1\frac{1}{2}$ inches in length, and made to fit closely together. If the size varies a trifle, be sure that one side joins perfectly, which is sufficient. To strengthen the union and render success more certain an upward slit is sometimes made in the scion and a downward corresponding cut in the stock, forming a sort of tongue in each, which, when pressed together appear as shown in fig. 6. This is called tongue grafting and is a very sure method of saving choice scions but not applicable to large branches. After bringing the edges in an exact line bind with strips of cloth, about one half inch wide which has been coated with melted grafting wax. In winding, the edges of the cloth should overlap a little so as to cover every point. As the tree grows it bursts this bandage rendering cutting unnecessary. Bass matting however, is sometimes used, and the whole covered with grafting wax.

Whatever the kind of grafting, care should be taken to allow no superfluous shoots to rob the scion of its proper nourishment, viz., the sap; and take every precaution to provide for its continuous free circulation between and through both stock and scion.

The Zante Currant.

Many of our readers have seen the imported dried currants, used for cooking in fruit-cake, pies, etc., and they will perhaps be interested to know more of them, especially as a trial of raising them in this country is about being made. We condense the following account principally from a communication sent in by S. P. M., Portland, Me.

Though they have received the name of currants, they are properly a species of *grape*, growing on a vine, and capable of being grafted upon the common grape vine. The fruit grows in clusters, differing from the common grape in being seedless, except one large berry in each bunch, which is called the male currant.

It is said to possess very fine flavor when fresh, being a regular article of dessert in the country where it is produced. It is eaten when about three-fourths ripe, and unlike other fruits, is said to be more wholesome before fully maturing.

They are raised in the southern division of Greece (the Morea), and the adjoining islands, particularly Cephalonia, Ithica, and Zante, from which latter place their name is derived. In Cephalonia alone, our correspondent says, over 9000 acres are cultivated, mostly for exportation.

Our correspondent gives an account of the manner of preparing them for shipping not particularly pleasing to think of, especially to scrupulous housekeepers, who make neatness a cardinal virtue. He says that after being properly dried, the fruit is packed in casks, being trodden down by the unwashed feet of peasant women.

If introduced for cultivation in this country, they would probably not thrive in latitudes north of 36°. They require careful culture, needing abundance of water, so that irrigation is resorted to, in bringing them to perfection. They may be propagated by layers or cuttings in the same manner as the common grape vine, and require six years to come to full bearing; the fruiting, however, commences in about three years. The high prices which the fruit brings, will probably ensure it a pretty thorough trial, and it may prove remunerative, but we do not see promise enough in the plant to warrant a very high currant fever.

Grafting and Transplanting Grapes.

A correspondent writes us that he has several roots of the common Fox grape, which he wishes to graft with improved sorts; and asks if he shall do the work at the same time and in the same way as for apple-trees. He also wishes to remove a large Isabella to a better location.

We are glad to see that the improving taste of our people will not let them rest satisfied with the old-fashioned grapes. There is a delicious sweetness and flavor in most of the new varieties, of which many people had before read and dreamed, but which they supposed could be enjoyed only by the owners of costly glass structures for raising exotics. We do not wonder, therefore, that so many thousands of the new comers are annually disseminated over the land. Nor do we wonder at the desire to engraft the old sorts with the new and better. This work is easily done, though success is not as certain as with apples and pears. It may be done in the Spring, at the time of grafting fruit-trees in general, if the stock is cut off several inches below ground, and then well waxed over to prevent excessive bleeding. But it is more likely to succeed, if done later, when the leaves are nearly expanded, and the first flow of sap is mostly over, which occurs, in this latitude, from the 1st to the

10th of June. Saw off the stock smoothly below ground, split it in the usual cleft-manner, insert one or two scions, bind the stock firmly together if it does not adhere well, cover with wax, and draw the earth over the whole, leaving one bud above the surface. If the weather is dry, it will be quite important to mulch the ground and shade the scions for a month or two, otherwise they will dry up and perish. When the stock is large and difficult to split, several gimlet holes may be bored in it two or three inches deep, and the scions inserted. Make the holes in the direction of the grain of the wood. Care must be taken to rub off the suckers which will spring up from the stock, and would otherwise rob the scions of their necessary food. If the scions get well established, they will make a growth of from five to ten feet the first season, and will bear some fruit the second year.

We can hardly advise to transplant a large vine. The roots extend far and wide, and are very easily broken. If, however, one chooses to try it, take time enough. Take a leisure half day; begin at the stump, and uncover the roots for as great a distance as the branches would extend if laid upon the ground. Then, with a transplanting trowel and the fingers, follow out each root, lifting up the fibers carefully so as to break none. Then set it out as speedily as possible, so as to allow none of the roots to become dry, giving it the best possible soil. Cut out the oldest canes, and shorten the youngest to 5 or 6 feet. Mulch the roots for the first season, and water them if necessary to keep the vine from flagging.

The Newer Grapes.

The Rebecca continues to hold its place as one of the most delicious of our native grapes. Its berries have been happily styled "bags of wine." Yet, careful observers begin to fear that its hardiness for the northern States is not yet fully determined. The original vine at Newburgh, on the Hudson, has been laid down and covered every winter, and the young vines, now everywhere growing, show that protection is not thrown away upon them. Let this important point be looked at, and when longer and wider experiments have been made, we shall know better, whether its wood is as hardy as its fruit is excellent. Objections have also been made to it on account of its tendency to mildew. With us (in northern N. Y.) it has suffered more than the Delaware and the Concord, but not more than the Diana and Isabella.

No fault can be found with the DELAWARE, except for the comparative smallness of its clusters and berries: yet even in this respect it is improving with the age of the vines. As it ripens its fruit before warm weather is over, it is not easy to keep it a long time fresh and plump. But for late preservation, we have enough in the Diana, Rebecca, Isabella, etc.

The MARION and the LOGAN do not seem to come rapidly into public favor. Yet we think the Logan will soon stand nearly alongside with the Concord and Hartford Prolific, on account of its hardiness and earliness. Its small size is an objection to it.

The ANNA is now highly spoken of in some quarters. It originated in the garden of Eli Hasbrouck, Newburgh, N. Y., and fruited first in the year 1851. It is a white grape in the shade, and light amber in the sun, with an abundant bloom. The bunches are large, moderately compact, shouldered, and symmetrically shaped. Berries fair size, round, and translucent. An ardent amateur says: "It is surpassingly sweet,

rich, vinous, and somewhat spicy in its flavor, and has a decided, but pure and delightful aroma." It ripens a week before the Isabella, but is improved by hanging long on the vines. These statements, be it remembered, are only from first impressions. Longer trial and observation may modify our opinion. But at any rate, this grape "promises well." As Mr. Hovey says: "If it proves (hardy and) as early as the Diana, it will be a most valuable acquisition."

THE CLARA. Of this, comparatively little is yet known. It was a chance seedling in the garden of P. Raabe, of Philadelphia. Dr. Brinckle, a good judge of fruits, describes it as follows: "Bunch medium, berry medium; round, green, faintly tinged with salmon when exposed to the sun; flesh tender, juicy; flavor rich, sweet, and delicious; quality best." Dr. L. E. Berckmans, the famous pomologist, says: "The Clara is a precious addition to our still short list of native grapes of great merit. The fruit is tested, and stands high indeed. The only thing to be tested is the hardiness of the vine under unfavorable circumstances." It is said to ripen as early as the Isabella.

The UNION VILLAGE is said to be equal in size to the Black Hamburg, equal in quality to the Isabella; but the vine is tender, and needs careful protection in winter. On account of its very rampant growth and late ripening, it requires to be planted in dry soil, only moderately rich, and in a sunny exposure.

The TO KALON is not as well known as it deserves to be. It has large, shouldered bunches, berries black, and covered with a profuse bloom. The fruit is of first rate quality, equal in every respect to Isabella or Catawba. It needs a deep, rich soil to promote fruitfulness.

How to Raise Strawberries.

This month is one of the best in all the year for planting the strawberry. For this reason, and because many persons still imagine that there is some mystery in the raising of this excellent fruit, we will now set forth all that is really necessary to know on the subject. For a more full discussion of the theory and practice, we refer the readers to articles in our recent volumes.

The strawberry likes a warm, sandy loam, with a sunny exposure. It will bear fruit in poor soil, but to produce large berries and a plenty of them, the land must be enriched. It will bear fruit a short time, in a light and thin soil, but to prolong the season of bearing into the midst of dry weather, the soil must be deepened by trenching (digging). Some varieties have imperfect flowers, i. e. are either staminate or pistillate, (male or female) and can not fertilize themselves, therefore, those of one sex need to be planted in the neighborhood of the other. A few have perfect flowers, and are called hermaphrodite. In the artificial soil of our gardens, strawberry plants are apt to grow too rank and dense for their highest productiveness, and should be thinned out, so as to keep them several inches apart.

The above are perhaps the most important general principles connected with successful strawberry culture. Now, for an application: Choose a warm portion of the garden, unshaded by trees or vines, and where there is no standing water in the subsoil. If the garden has already been trenched eighteen inches or two feet deep, and if the soil is warm, rich and porous throughout, all you have to do is to just spade up the earth, level it off, and set out your plants. But, supposing the subsoil is hard, and the top soil somewhat

stiff and cold, and exhausted by other crops, then proceed as follows: Begin at one end of the proposed bed, and take off the top soil one spade deep and four feet square, and carry the same to the other end. Spread over this uncovered spot, a compost of old manure and rotted weeds or muck from the woods, and spade it down, and mix all thoroughly together. Then uncover four feet more, throwing the top soil over the part already manured. Manure the uncovered soil as before, and so proceed the whole length of the bed: on reaching the end you will find use for the top soil taken off at the beginning. If now, the top soil is not rich enough, or is too hard and sterile, apply a dressing of fine compost, or sand and wood-earth and ashes, mixing the whole thoroughly. Then level off and lay out the beds four feet wide, and as long as your space demands. Three beds, of that width and fourteen feet long, will supply an ordinary family and their cousins, with an abundance. Set three rows in each bed, and let the plants be eighteen inches apart in the rows. Mulch the ground between the plants with tan-bark or straw. If the weather is dry for several weeks after planting, give an occasional watering. Keep the runners clipped, and the weeds—let none be seen. You may be tempted to let the plants bear fruit the first year; but this will only weaken them and prevent a bountiful crop the second season. The very best way is to keep down all the runners, and to pinch off every blossom the first year.

As to the best varieties, it is no easy matter to decide, where there are so many excellent sorts; but the following may be relied on as certainly good:

Staminate sorts: Wilson's Albany, Longworth's Prolific, Hooker, and Large Early Scarlet.

Pistillates: Hovey's Seedling, McAvoy's Superior, Burr's New Pine, Black Prince, Crimson Cone.

Some of the above are regarded in certain quarters as hermaphrodite, viz.: Longworth's Prolific, Hooker, and Wilson's Albany.

The staminate and pistillates may be set together in the same bed; but it is better to keep them in separate patches. If they are within six or eight feet of each other, the pistillate plants will be sufficiently fertilized.



The Traveler's Tree.

Rev. Mr. Phillips who went out to Madagascar in the employment of the London Missionary Society, has written a work descriptive of that country. He took with him photographic apparatus, and obtained exact pictures of many trees and other objects. One of the trees, called the *Traveler's Tree*, pictured and described by him, is so unique, so striking, and withal so new and wonderful, that we have deemed it worth while to re-engrave it for the *Agriculturist*, especially as the book has not been yet republished in this country.

The engraving gives the general form and structure of the tree which is in itself a gorgeous specimen of tropical vegetation, and adds a striking feature to the landscape where it grows. The most remarkable thing about it, however, is the fact that it furnishes a large supply of pure water in the very driest season, even when growing upon the most arid sandy plain. From this boon of fresh pure water, afforded to the thirsty

traveler, it derived its name. The water furnished by it is said to be of such excellent quality that the natives of Madagascar, where it grows abundantly, resort to it in preference to going but a little distance further for supplies from the stream.

The leaves, which furnish the fluid, are each from four to six feet long, and about two feet broad, and they are attached to the body by a stalk six or eight feet long, and of proportionate thickness, each tree having from fifteen to twenty-four leaves. The base of each leaf-stalk contains a reservoir of water, holding a quart or more, which is drawn out by the natives by striking a spear or other sharp-pointed instrument four or five inches deep into the stalk near its junction with the trunk of the tree, when the water flows out freely. The main stem of the tree is thick and succulent, resembling a plantain tree, rising sometimes thirty feet high, and sending off the leaves from each side of the top of the stem. As the leaves increase in number and size, they extend horizontally and droop at the end, thus giving the tree the appearance of a gigantic fan, with a very long handle.

Inhabiting, as we do, a land flowing with living streams, where nearly every hill-side has its sparkling spring, and

each valley its winding brook, and where even in the cities the indispensable element is taught to follow the tangled streets and enter each dwelling, we can hardly appreciate the boon bestowed by Providence upon less favored regions by such a gift as the *Traveler's Tree*.

Mr. Phillips thinks the name "Builder's tree" would be even more appropriate than its present title. The enormous leaves are used to thatch all the houses on the eastern side of the island, the leaf-stalks furnish materials for constructing the partitions, and even the sides of the house; and the hard bark enclosing the stem, is stripped off, beaten out flat, and laid for flooring—the pieces often being eighteen inches wide, and from twenty to thirty feet long. The dusky house-keepers of Madagascar also make portions of the green leaves serve the purposes of wrapping-paper, table cloths, dishes, plates, spoons, and drinking vessels.

Were it not for the high character of Mr. Phillips, and of the Society sending him out, we might be inclined to think the *Traveler's Tree* received

its name from some of one of the wonderful stories which travelers are usually fond of relating, and which, we may add, their auditors are equally fond of listening to.

INDOOR WORK.

Nonsensical Recipes.

There may be some "Cook Books" which are valuable, but we have yet to find one which we can recommend as reliable. There are, in all of these, more or less good things, but along with the good there is such an admixture of the worse than useless, that unless the reader is already skillful—in which case the book is not wanted—it is hardly safe to rely upon the printed "directions." These statements were suggested at this moment by chancing to open a volume called "The Skillful Housewife's Book" which has been highly puffed, and the title page says "35th thousand." The first 'recipe' our eye fell upon was for "bleeding at the nose," for which it is recommended to "tie a thread very tight around the little finger." About as sensible as to recommend spitting three-and-a-half times on the north side of a flat stone to cure the heart-burn.... On the same page we read: "For corns; Melt together 2 oz. of beeswax and 2 ounces of ammonia, and just before they are cold add $\frac{1}{2}$ oz. of verdigris. Spread on small pieces of linen, and apply it, after paring the corn. This has cured inveterate corns." A pretty time one would have in "melting" ammonia, a very volatile liquid. We would not object to paring the corn, but deliver us from the verdigris. Again, on the same page, for Ring Worms: "Lay a penny in a spoonful of vinegar, and, after standing a few hours wash it frequently. This will cure."—Will it? Verdigris again, for the only substance produced—if any—by the penny and vinegar, is acetate of copper or verdigris.

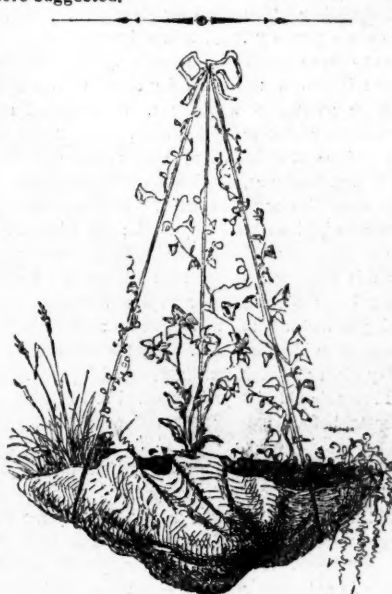
On the next page we read for Salt Rheum: "One quart of vinegar and 4 oz. of litharge, boiled down to $\frac{1}{2}$ pint. When settled, turn it carefully from the sediment. Take a stick, round at the end, and stir 2 oz. of sweet oil or more, until it forms a consistence thicker than cream. This has cured very bad cases."—When and where? On the same page we find: For mortification, "Apply poultices of yeast, thickened, if convenient, with flour of slippery elm, warm, and renewed often, giving the patient a glass of yeast three or four times a day, and tonic bitters." The 'patient' would need baking, if soft enough to take three or four glasses of yeast a day besides the 'tonic bitters'.... Turning over the leaf, we read: "For Sprains and Bruises, when the skin is not broken, take a pint of soft soap, a handful of salt, a tablespoonful of powdered salt-petre, and apply to the part affected with a bandage."—If the skin does not "break" after applying such a mixture with a "bandage" it must be distressingly tough.... Next we have "infallible," "safe," "sure" remedies for felons.... Next: "One pint essence of peppermint and three of whisky gives perfect relief for burns, 'instantly.'.... That will do for this time, we have only read three pages, which is enough for one dose.

A Neat and Tasteful Ornament.

At this season of the year there will be little difficulty in finding plenty of the cones of evergreen trees, scattered about the woods and lawns, which have partly opened and perhaps shed their seeds. Gather a few of these, sprinkle grass-seed among the openings, and set the cone in a

wine-glass or other small vessel, which will support it well, partially filling the vessel with water. In a few days the burrs will close upon the seed, and they will germinate, sending out their shoots to the light, and forming a beautiful little pyramid of green, looking all the brighter by contrast with the brown color of the cone.

If a little fine mellow soil be placed in the layers of a cone which are fully opened, and the cone set upright and partly buried in the soil, it will make a pretty and unique little vase or flower pot, in which seeds of a few delicate plants might be sown, producing a very pleasing effect. Several cones of different sizes might be selected and arranged in a neat box. If so treated, care will be needed to give the cones sufficient water. We doubt not that the ingenuity and taste of our fair readers will devise many modifications of the idea here suggested.



Flowers in Shells.

To the Editor of the American Agriculturist:

Allow me to contribute to that lovely and interesting part of your paper devoted to home floriculture, an idea, which has found many admirers since I introduced it here several years ago, and which I think will come into great favor when generally known; as it adds a novel and graceful ornament to our windows, piazzas, etc. I mean the successful combination of two such favorite objects as the shells of the Ocean with the "children of light"—flowers growing in shells, each in itself a beautiful thing of nature, and each lending a charm to the other.

Shells, bearing plants, are certainly as graceful, if not more so, than the hanging flower-pots (ampels) of bronze, terra cotta, etc., and considering the high price of the latter, while so many shells lie buried under dust in closets and garrets as useless things, I quite flatter myself that this my little discovery will be welcome to many friends of flowers—especially their human sisters—just at this season, when we prepare with impatience for the new offspring.

The cuts will give a sufficiently clear idea of the manner in which they are to be used. The places where they are to be suspended, will depend upon individual convenience and taste. Regard should of course be had to proper position for light and heat. For attaching the cords it may be necessary to drill a few small holes in the shell, into which wires can be inserted, and the cords attached to them.

Some hints to those not much acquainted with

floriculture, may be useful; to which I also add a list of botanical names, by which to obtain seeds of plants best adapted for shells. The seeds may be found at most seed-stores.



The impracticability of draining-holes in shells seems the first obstacle; but three years' experience has proved it of no serious consequence. Into large shells (over 6 inches), I put first a handful or more, according to the size of the shell, of coarse clean sand, or better still, coarse powdered charcoal, and upon this the light soil, to receive the seeds or plants; it is also well to mix a little powdered charcoal with this soil. In a large shell, four or five plants of different kinds may be grown, and if there is among them a semi-aquatic plant, for example a *Mimulus*, the soil will more frequently be found too dry, than too wet. Small shells need hardly any sand or charcoal, as the moisture in the limited quantity of soil is quickly exhausted by the roots. Careful watering when dry, is of course a matter of importance with these, as with every pot-plant. Many persons think that there is not room or soil enough in a shell to support plants; this is a common error. In pots, plants succeed and bloom generally better in little soil, than in too much, and consequently more are killed by too large vessels than by small ones. Three years ago I planted a *Lobelia* in a shell, holding not quite two table-spoonfuls of soil, and it is still growing in it, flowering exuberantly every summer!



Here is a list of plants, successfully grown in shells; those marked with * are only for larger shells:

* <i>Anagallis Monelli</i>	* <i>Manulea violacea</i>
* <i>Campanula speculum</i>	<i>Mesembrianthemum tricolor</i>
<i>Cenia turbinata</i>	<i>Nemesia floribunda</i>
<i>Cochlearia</i> or <i>Jonopsidium</i>	<i>Oxalis rosea</i>
<i>acaulis</i>	<i>Portulacca grandiflora</i>
<i>Grammanthus gentian.</i>	<i>Silene alpestris</i>
<i>Gypsophylla muralis</i>	<i>Saxifraga sarmentosa</i>
<i>Linaria cymbalaria</i>	<i>Sedum coruleum</i>
<i>Lobelia ramosa</i>	<i>Tradescantia caudata</i>
<i>Mimulus moschatus</i>	<i>Tradescantia discolor</i>
* <i>Mimulus speciosus</i> , and	<i>Isotria medeoloides</i> , <i>Agrostis</i>
others.	<i>pulchella</i> , fine grasses.

Climbing plants for large shells:

<i>Ipomoea nil</i> and <i>quamoelit</i>	<i>Orobanchaceae</i>
<i>Maurandias</i>	<i>Thunbergias</i> .

For garnishing: Mosses (*Musci* and *Lichens*), and *Lycopodia*. C. MEINERTH, Rockingham Co., N. H.

The Best Whitewash we Know of.

The arrival of the house-cleaning and house-repairing season, and several recent inquiries, remind us to again refer to that first-rate in-door white-wash we described last June. Nearly a year's trial has confirmed all we said of it. Our house ceilings, and the walls where not papered, which received one coat last May, are now as white as after a usual fresh coat of lime, and we have not been in the least trouble with its "rubbing off." The numerous published receipts, to the contrary notwithstanding, we believe no preparation of lime or other material will adhere well without the addition of glue, oil or varnish. The latter two articles are expensive, and caustic lime mixed with glue will soon change its color. White chalk is *uncaustic* lime, (carbonate of lime,) and this substance is the best substitute for lime, as a white-wash. A very fine and brilliant white, washed preparation of chalk is called "*Paris White*." This we buy at the paint stores for 3 cents a pound, retail. For each sixteen pounds of Paris White, we procure half a pound of the white transparent glue, costing twenty-five cents (fifty cents per pound). The sixteen pounds of Paris White is about as much as a person will use in a day. It is prepared as follows:

The glue is covered with cold water at night, and in the morning is carefully heated, without scorching, until dissolved. The Paris White is stirred with hot water enough to give it the proper milky consistence for applying to the walls, and the dissolved glue is then added and thoroughly mixed. It is then applied with a brush like the common lime whitewash. Except on very dark and smoky walls and ceilings, a single coat is sufficient. It is nearly equal in brilliancy to "zinc white," a far more expensive article. Let the readers of the *American Agriculturist*, try this method the present Spring, on a room or two at least, and we think they will not use lime thereafter. It is, of course, a little more expensive than common lime, but is cheaper in the end, on account of its better color, greater permanence, and firm adherence to the plastering. At least, such is our experience.

House Cleaning.

BY ANNA HOPE.

"The melancholy days are come,
The saddest of the year,"

To the lords of creation. House-cleaning is in season; carpets must be taken up and shaken, walls must be brushed, perhaps washed, or papered, or painted. Paint must form an intimate acquaintance with the scrubbing-brush, windows must be taken out and dashed with water, and chilling draughts and general discomfort must be produced, which will result in colds and coughs, exhaustion of body and vexation of spirit.

These wonderful "house-cleanings" result in much more harm than good, notwithstanding "cleanliness is next to godliness." There is a more excellent way of neatness, a quiet, unobtrusive way, which occasions no great disturbance—no violent revolution—which does not bring in its train evil consequences to health and temper and family comfort.

The attic may first be put in order—its trunks and boxes overlooked, and all things not needed there for the summer, removed.

Then let the chambers be cleaned, disturbing no more rooms than can be completed in a day, unless extra work, like painting and papering is required. The furniture should be thoroughly dusted and removed to another room. Pictures should be taken from the wall; mattresses

should be well beaten, and the bedstead, if not taken apart, should be covered to protect it from the dust. When taking up the carpet, fold the breadth as carefully as possible, so as not to raise much dust. The sweeping should be done slowly, and with short strokes of the broom or brush, for the same reason. After the dust has settled, the wood-work requires a nice dusting before washing it; the walls may be dusted either by a long-handled feather duster, or by tying old muslin over a broom, and passing over the walls and ceiling with it—this removes the dust more effectually than a broom or brush without it. It is well to wash the floor before the other wood-work, to save the clothes from becoming unnecessarily soiled.

In washing windows or paint there is no need of a deluge of water, which, unless speedily wiped up, will run through the floor and stain the ceiling below. The cloth for cleaning should not be dripping with water; it is only an untidy tidiness to have pools of soap-suds lying about the floor; it is well to have a dry cloth with which to wipe paint after washing it. Soap should not be rubbed on the scrubbing cloth when it can be avoided, as it softens and removes the paint—there are, however, obstinate cases in which severe remedies must be used. Windows should first be wiped with a damp cloth; use a brush for the corners—an old shaving brush answers well for this purpose; if the dust resists the brush, put a bit of whalebone or a splinter in the cloth, and you will not fail to succeed; nothing looks worse than black corners. Dry the window with a dry cloth which is not linty, or with paper.

Floors should always be washed after taking up carpets, before putting them down again, as a protection against moths. If moths are found in the carpet, I know no better way than to dampen a cloth, place it over the carpet and iron it with a hot iron, so that the steam may destroy the life of the mischievous little workers. This is particularly important in parts of the carpet where furniture is not often removed—as under book-cases and tables. In putting down a carpet do not drive the tacks as if they were never to be taken out again, but leave them so that with the claw of a tack-hammer they may easily be drawn out. Tacks with leather upon them are best, as there is less danger of carelessly pulling them through the carpet.

When the chambers are in order for summer, the rooms on the lower floor can take their turn. The cellar must not be neglected—the remains of vegetables must be removed, and a good coat of whitewash applied. The health of families often suffers from neglect in this respect; it is impossible to thrive in impure air.

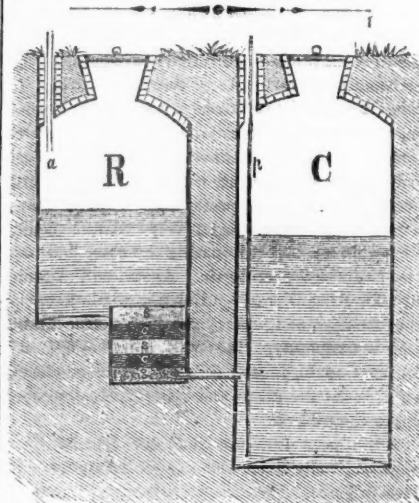
While you are using whitewash do not suffer yourself to yield to the temptation, if it should be presented, to whitewash the fences, and above all the trees. I think the color the Creator gave the trees is the best for them, and when we dress them in shrouds, we mar their beauty. Fences are necessary evils; they injure the unity of a landscape by creating a resemblance to a chess-board. Fences should never be made conspicuous; they are best when concealed by shrubbery. We are told that these uncultivated spots harbor weeds, and so fences must stand up straight and bare, a mere thing of use, unclothed with the garment of beauty which Nature is ever weaving to hide ugliness. If fences are painted, let it be of some quiet color, as nearly resembling that of the soil as possible.

It is not difficult to paint and paper a room if one chooses to attempt it. To paint requires no more strength than to use a scrubbing-brush, and it certainly repays one for some hours of labor to

see a room look fresh and nice. Directions sufficient for the purpose would be given by any painter, unless, perchance, the fear that his craft was in danger might seal his lips.

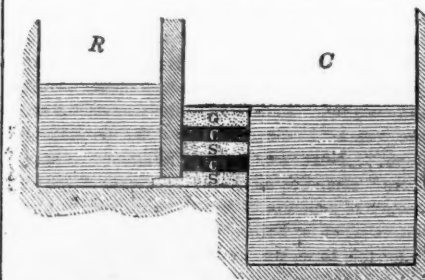
It is more laborious to paper than to paint, because there is so much reaching, but with a proper step-ladder it will not be very wearisome for a person in good health. Care must be taken to match the figures correctly and to have the different widths hang perpendicularly. Begin to paper by a door or window where any defect in matching will be the least observed. A little alum dissolved in the paste causes it to adhere better. When the paper has been laid against the wall it can be smoothed on, by patting it with a towel, from the middle of the paper to the edge; too much paste must not be put on the paper as it may stain it.

Putting away woollens and furs comes in connection with spring cleaning; nothing is better for their preservation from moths than camphor—turpentine and tobacco are also good. Furs and woollens should be put away early in the season, if possible before the moths appear.



Filtering Cisterns.—An Improvement.

The above cut we gave in January (page 6), to show a general form of constructing double or filtering cisterns. Wm. R. Hazard, of Cayuga Co., N. Y., has since called upon us and described his own cistern, which is essentially like the above, but with an improvement which we have attempted to illustrate in fig. 2. The improvement consists in so arranging the filtering materials, that the water shall rise through



them in passing from the receiving cistern, R, to the main cistern, C. The advantage of this is, that while the sediment would settle upon, and clog up the upper layer of sand in fig. 1, but in fig. 2 it would, fall down and leave the filter always clean. There is a little error in engraving fig. 2, which we did not observe until too late to correct it. The lower layer of sand *s*, should be supported by a perforated board or sheet of copper, with a woollen cloth upon

it, to hold the sand; and further, the open space below should be larger, say four or five inches deep to leave abundant room for any amount of sediment. Thus constructed, the filter will not require changing or cleaning for a long time.

Kitchen Drains.

One of the greatest nuisances at the back-door of many country-houses, is the kitchen drain. Every farmer and gardener knows that slops from the sink and soap-suds from the wash-tub, if saved, would make an excellent fertilizer; and that if thrown upon the ground at the back-door, they become offensive to the eye and nostrils, as well as a source of disease. For every man who has a garden or farm, we still recommend that all the refuse from kitchen and chamber be saved and applied where needed. It may be collected in barrels, or conducted by troughs to the manure heap, and there mixed with muck or other absorbents.

But to those (pitiable people!) who have no desire to save slops, and who wish only to be decently rid of them, we recommend a plan, which we have seen tried, and know to be a good one. It was as follows: A plank spout was made, three feet long, two feet wide at one end, and one foot at the other; the smallest end was sunk in the ground near the kitchen door. The upper end contained a moveable sieve, with holes an inch in diameter, and six inches below this was another with holes half an inch in diameter. Between the two sieves, little refuse matter in the slops passed through to clog up the drain below. These sieves are easily removed and cleaned. A lid over the top of the spout to keep down offensive odors, completed it. The lower end of this spout terminated in a plank-drain six inches in diameter and twelve feet long, laid below frost. This drain conducted to a cess-pool six feet deep and five feet broad, which was filled up with cobble stones laid loosely, and with a considerable open space in the center. From one side of this cess-pool, a drain of tubular tile two and a half inches diameter, ran off into an adjoining pasture. To aid in keeping his cess-pool sweet, and in carrying off the liquid clean through the tile-drain, the water from the sow-troughs of an adjoining shed or stable was conducted into the cess-pool. At every considerable shower, this washed all out thoroughly. This arrangement has worked well for several years.

Soda in Bread—Again.

We continue to receive numerous communications on both sides of this question, and must beg a little truce. The theory of the action of alkaline carbonates in raising bread and biscuits, and the action of alkalies and the residuum salts upon the system, have been pretty fully set forth. We believe the right view of this subject to be about this: So far as practicable, it is best to use the old-fashioned "salt raising" bread. When necessary, substitute "brewer's yeast." For occasional convenience, biscuits, etc. may be raised with cream of tartar and soda, taking care to have these substances in the proportion in which they will most nearly counteract each other, and produce a neutral salt. The injurious effect of such occasional diet will be no greater than that of many articles of indigestible food daily consumed, such as heavy pie-crust, or that crisp with shortening, hard-cooked meat or eggs, preserves, and such drinks as soda-water, strong tea and coffee.

One correspondent, "Agricola," referring to the fact that the sale of soda and saleratus has greatly

increased latterly, draws the conclusion that here is to be found one cause of the great decline in health. That the general health of our people is on the wane is not so certain; and if this were the case, there is abundant cause for it, in our more luxurious habits of diet and dress, in the closer confined air of our modern dwellings, and in the later hours of retiring to rest, and the diminished amount of sleep now taken.

BOY'S & GIRL'S COLUMNS.



Grandmother and the Little Girls.

Not having heard anything from Grandmother for some time, we were afraid she might be sick, and we therefore requested Cousin Mary to find out all about it, if possible, and let us know, so that we could inform all the grandchildren. After some delay Mary sends us the following:

DEAR MR. EDITOR:—I've had such a time! I didn't know as I should ever find Grandmother. I went to her house in the country, and found it all shut up, nobody there, not even the cat. I was really frightened, and couldn't think what had happened. As I was looking about, Miss Spriggs, who lives right opposite, threw up the window, and in her screechy voice, piped out: "No use o' knockin' there, she's gone to the city, to see her son John." I thanked her for the information, and hastened away, for I knew if I staid a minute, she would have asked me a string of questions about everybody and everything. Well, I came to the city again, and sure enough, I found Grandmother at Uncle John's. All the girls were around her, and she was as pleasant as ever. I thought you would be pleased to see how she looked in her new dress, so I made a sketch of the room, as it looked when I was there, which I send you, and hope you'll have it engraved for all the grand-children to look at. Grandmother says that little Kitty in the cradle pleases her much better, than the "kitty" that used to play with her ball of yarn at home. I haven't time to write more now, but will soon report something, for Grandmother keeps on talking to the girls just in her old way. Your faithful Reporter

MARY.

Letter from Uncle Frank.

When I had my last chat with you, I was nearly a thousand miles farther from the equator, at my own dear home. But my physician, whom I have learned to obey as if he were an iron-hearted schoolmaster and I was a little urchin under his government, said it was necessary for my health that I should spend the remainder of the Winter in the sunny South; and here I am at St. Augustine, the oldest and one of the quaintest and queerest towns ever settled by white men in this country.

Now I am going to tell you something about this venerable place—its low stone houses, with their gables staring the outside world full in the face; its narrow streets; its ancient fort; its sweet flowers and fruits; its mild and genial climate; and all about the people, citizens, and strangers. But I am inclined to think, that before I do this, you would prefer to have me give you a bird's-eye sketch of what I saw, and heard, and felt, on my way here.

It was very cold and very unpleasant when I started for Savannah in the steamer "Alabama." We flattered ourselves we should have fine weather, however, in less than

twenty-four hours; whereas we had any thing but fine weather. There came on a "Northwester," which gave us a very respectable specimen of a gale, occupying the greater part of a whole day in its exhibition. Then we had a northeaster, then a southeaster; and we began to think that we were in the midst of the Easter holidays. The ladies were nearly all sick. Every thing moveable tossed about the ship at a merry rate. But the storm cleared off—what a blessing it is that all storms do—the sun shone out blandly and lovingly; the ladies, who, like scared mice, had fled to their retreats at the approach of the tempest, re-appeared, first stealthily as the mice do when they are pretty sure (not quite) that Pussy has actually departed, then with more boldness, and finally with their wonted assurance. We were three days in reaching Savannah. "What kind of a place is Savannah?"

Well, it is a place where the sand is abundant, the cockroaches huge and fleshy, the green peas and fresh shad nice (when you can get them), and the hotel bills large and respectable. The geography will tell you the rest. This is what the geography *don't* tell you.

I wish you could have been with me on my trip from Savannah to St. Augustine; we took what is called the "inside passage," most of the way. You will wonder what the inside passage means. If you will take your map of the Southern States, though, you can easily solve the enigma. You will discover, what I presume you have never noticed before, that the coast is all cut up into little inlets, with small and almost innumerable islands. Now, when we talk about the inside, we mean nothing more or less than threading our way through this chain of inlets. Our boat was admirably adapted to the route. Every thing about her was neat, tasteful, elegant, and comfortable. There was one peculiarity in the arrangements of the boat, which struck me as especially desirable. The state-rooms all had two doors—one opening into the saloon, and the other outside, affording us a perfect view of the water, as we lay in our berths. I kept my outer door open all night, and the moon entertained me until the small hours, by dancing upon the waves. We had to go outside to enter the St. Johns river, and our little fairy steamer—the *Everglade*—got a thorough tossing in the meantime; to say nothing about sundry ladies and a few gentlemen who were most thoroughly and pitifully sick.

Sometimes alligators—great, overgrown, lazy creatures, looking more like a black log than anything with breath in its body, are seen lying on the banks of the St. Johns. We saw none this trip, however. The season is not quite far enough advanced for them yet, I believe. I have seen them here in the latter part of April, of a size that would astonish you. I heard a good many interesting anecdotes about these monsters, from people residing in this part of the country. It seems that they sometimes exhibit a good deal of cunning and shrewdness, especially in the capture of their prey. An old, shy alligator, with the scales of many summers on his back, and who, it may be, is fond of good dinners, will station himself among the tall grass and sedge on the margin of a creek, opposite a rich plantation. There he lies perfectly still. He can afford to wait. He has plenty of spare time on his hands. There comes down to his covert a dog, perhaps. He discovers the reptile, but satisfies himself with barking at the intruder long and furiously.

By and by, it may be, a pig, in one of its grunting and rooting crusades, comes that way. He is of an inquiring disposition. He wants to know just what that black thing is, and whether he can turn it to any profitable account. He is a pig of great courage, in fact, a very hero of a pig. He advances boldly up to the alligator, and examines him carefully. He is satisfied that if the ungainly thing is alive, he is most certainly asleep. So he waxes bolder, and makes himself quite familiar on short acquaintance. As soon as the dunce of a pig comes within the reach of the alligator's tail, the remorseless reptile hits the grunter a terrible blow, and sends him sprawling and squealing, into the water, where, of course, the alligator has it all its own way, and devours the pig without further ceremony. Alligators have their nests in these bushes, and it is here that they raise their young.

When we arrived at Piccolata, the landing where we take coaches for St. Augustine, it was about 4 o'clock in the evening of the second day after leaving Savannah. But it was an hour before we set out. It required three carriages to take all the passengers, ours was the last. Oh! what a road! It was shocking. However, we dragged along, comforting ourselves with the assurance that we should reach St. Augustine some time or other, probably. But our hope was a little dampened, when our forward horses broke loose from the vehicle, snatched the reins from the drivers' hands, and started off at full gallop on their own hook for parts unknown. This accident of course delayed us a long time. We couldn't find the runaway horses, and were obliged to rely on the remaining pair until a relay could be sent us. However, few disappointments are unattended with bright aspects. We had still the beautiful moon which shone so brightly while we

were upon the water, lighting up the dewdrops on the palmetto, and transforming them into innumerable gems. The night was mild. The air was perfumed by the odor of the yellow jasmine; and we all, instead of grumbling at our misfortune, made ourselves tolerably merry for a while, and—went to sleep. Such was my advent to St. Augustine at the hour of midnight.



Kites—and How to make them.

Quite a number of our young readers have written during the past Winter, desiring us to tell them something about kites. We very cheerfully comply with this request, for we consider the making and flying of kites as one of the most innocent, instructive, interesting, and healthful amusements, in which boys can engage. It is a better exercise for girls too, than many of the coarser, romping amusements. We always love to see sisters assisting their brothers in cutting out, pasting and modeling their kites, and so far as we have observed, a kite is always more tasteful when a sister has helped get it up, and the pleasure in flying it, greater when she is present.

How pretty a thing is a kite as it rises proudly, and gaily floats and dances through the air! It seems almost a thing of life; and the pleasure is greatly heightened by the skill required to construct and fly it well. No wonder that it has been a great favorite with the boys in this and other countries. Travellers tell us that in China, kite flying is heartily entered into by the men as well as the boys; a regular day being set apart every year for the purpose of trials of their skill. On these days each one endeavors to raise his kite highest, and to bring down his neighbor's by drawing his own line back and forth over that of his opponent to cut it off; though it often happens that his own kite comes wavering to the ground.

Kites, although chiefly designed for amusement, are not without their practical uses. For example, they are sometimes serviceable in raising a line to heights which could not well be reached by other means. A few years since a party carried a line in this manner over Pompey's pillar, a very tall column in Egypt, and then by drawing up stronger cords, they were able finally to ascend to the top. The mighty chasm spanned by the Niagara Suspension Bridge was first crossed by sending a kite over, and using its string to draw over first a strong twine, then a still larger one, and finally wires and cables. Dr. Franklin first made the kite famous by sending it up with small steel points (lightning rods), and drawing down electricity from the clouds along the wet string.

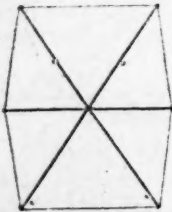


Fig. 2.

A thousand instances might be named, where the kite has been made to serve a useful purpose.

Village boys usually succeed best with kites, mainly, we suppose, because so many of them get together that they show each other. Farmers' boys live more remote from each other (to the great advantage of their habits and morals), and when one of them fails in flying a kite, he can not at once get instruction and assistance. We know this by experience, for when a boy, we often tried to fly a kite, but having no descriptive books or papers—no *Agriculturist* was published then—and no one to show us, we never succeeded well. But though too old and

busy, to spend much time with kites now, it is a great pleasure to explain them to our own little ones, and to our young readers, especially those who live in the country. Boys who know all about kites, need not read what follows, for we are writing only for those who do not know.

WHAT MAKES KITES GO UP.

Tie four short strings of equal length to the corners of a shingle. Then join the loose ends of these four strings to the end of another string. If now you take hold of the string and run against the wind, the shingle will stand out perpendicularly, or "straight up and down," because the four strings are all of equal length, and they hold the side of the shingle square against the wind. But now make the lower string a little longer than the upper one, and then the upper end of the shingle will be tipped forward a little, and the wind will strike "slanting" against it, and slide off from the lower end which slants backward. This will push the kite upward, just as the wind striking against the sail of a ship which is going against the wind, drives it sideways and partly forward. Indeed, a ship is really a great kite. Its rudder acts much like the tail of a kite to keep its head pointing partly against the wind, so that it may move in the right course.

If the strings fastened to the shingle were stiff wires so that you could keep the end leaning forward always slanting upward, then the shingle would rise upward. But with only strings on, the shingle would turn over bottom side up, or sideways, and the wind would shoot it sideways, or most likely downward. But put a little weight upon the lower end which slants backward, and then of course the wind would always "glance" off from the lower side, and keep the shingle going upward. You see then that to have the shingle going up, you must have the strings unequal, but in just the right proportion to give it the right slant for rising, and then you must have a weight or "tail" on the lower end to act as an anchor or rudder—the same as the long stick on a rocket to keep its point erect, while the force of the powder drives it upward.

We have spoken of a shingle for illustration. Unless very thin, a shingle is too heavy for a kite, and a frame covered with cloth or paper is used.

HOW TO MAKE A KITE.

The first thing needed will be the frame-work, to give stiffness to the kite, and also to afford a place to fasten the line and the tail. The manner of making depends upon the kind of kite wanted. In fig. 2 is shown a hexagonal, and in fig. 3 a star kite. These are the most common forms. For the hexagonal form (fig. 2) three sticks are used as a frame. These should be made of pine, cedar, or some light wood, the two longer ones 11 inches, and the other 8 inches in length, or in about these proportions. If these lengths are used, the kite will be about 9½ inches high. For one twice as large, use sticks twice as long, and so on, these being of the right proportions to have the kite well shaped. The sticks should be made round, and of from ¼ to ½ of an inch in thickness, according to the size of the kite. When the sticks are ready, lay them across each other in the shape you see in fig. 2, being careful to have them cross at the center of each stick; and let the ends of the long sticks spread apart 6 inches at the top and bottom if the long sticks are 11 inches long. They can be fastened together by carefully driving a tack through them, or tying them with a string. Next cut a notch in the end of each stick, deep enough to receive a small cord or string, and pass the string around the outside of the sticks in the notches, as you see in the picture. Be careful to draw it tightly, and tie it around the end of one of the sticks, so as to hold the frame firmly. Cut a notch in the upper part of each of the long sticks, where you see the small points in fig. 2, that is, half way between the center and the upper ends, and also in the lower parts quite near the bottom, to fasten the line and the tail, and your frame is finished.

The frame of the star kite (fig. 3) requires four sticks; the two longer ones of any length you choose, and the others half as long. These are to be fastened together in the middle, as already described, with the ends of the shorter ones half way between the others, as shown in fig. 3. The twine around the outside is passed from stick to stick, and wound around the end of each in notches made for the purpose. The string for flying this kite is attached by loops to the four ends of the short sticks.

In fig. 4 the frame of a bow kite is shown, which requires two straight sticks and one curved. The long straight stick is 21, and the short one 12 inches long, or in this



Fig. 4.

proportion. Let the sticks be crossed at 14 inches, or two thirds the length from the bottom of the longer one, and fastened as before described. The curved stick may be a bit of thin rattan or whalebone, or a willow twig, or any kind of wood easily bent. This is to be bent around the upper end of the kite, and fastened to the end of the cross piece, and the top of long stick. Strings only, pass from the ends of the cross piece to the bottom of the kite. The strings in this kind of kite are fastened near the ends of the sticks, where you see the points in fig. 4, and the tail at the bottom, as shown in fig. 5.

Having finished the frame of either of the above kinds, it is next to be covered on one side with paper. Newspapers are good; for quite small kites tissue paper, being lighter, is better. Where the kite is very large, cotton cloth is sometimes used. Lay your frame upon the pa-



Fig. 5.

per, and cut out the shape of the kite, about ¼ of an inch larger than the frame, so that it may be doubled over the edge of the frame and pasted down. Common paste, made by mixing flour and water, is all that is needed. Be careful to paste the paper on the frame smoothly, and to use but little paste, to keep the kite light. It is well to paste a few short narrow strips of paper on the back of the kite to hold the paper to the sticks, say one strip in six inches. After pasting, leave the kite a few hours to dry thoroughly. When this is done, the tail and string may be attached.

The tail is made of long strips of cloth, generally old pieces taken from the rag-bag, and tied together; or small twists of paper tied about six or eight inches apart on a stout string will answer. The length of the tail will depend on the size of the kite, and the weight of the cloth used; the longer it can be made without being too heavy, the more graceful it will look when in the air. A heavier tail will be needed when the wind blows quite strongly. The tail is the anchor or rudder, which keeps the kite from "diving" or swaying about too much in sudden gusts of wind. If very short, the kite would turn round it and dive downward. The first thing is, to get the strings arranged to give the kite the right slant or angle (35° from a perpendicular) for ascending against the wind. The next most important point is to get the tail of the right weight and length, and on this the beginner will have to experiment, and calculate, and "try, try again" for a long time, before he becomes an expert kite-flier. But all this adds to the excitement and pleasure.

For the line, cut a small hole through the paper, where the notches were made in the sticks, tie a short string firmly in each notch, and let the loose end come through the paper to the front of the kite: then tie these ends together to form one string, and fasten the line to the end. These short strings should be so arranged, as to bring the top of the kite a little more than a third down toward the line, or to vary 35° from a perpendicular. This will give it the right slant to raise it well in the air. (The bow kite complete and somewhat ornamented, is shown at fig. 5). The line should be light and strong, the size, of course, varying with the dimensions of the kite.

To raise the kite, choose a day when a good breeze is blowing, a clear space without trees or buildings, and for the first few trials get a friend to assist you. Let him hold the kite while you take the line in your hand, unwinding it as you walk and go about thirty steps against the wind; then have him take the kite by the lower edge with both hands, holding it as high as he can. Now run straight against the wind, your friend letting the kite go as you start, and it ought to rise. Let out the line slowly as you run. When it is pretty well started, you can stand still, and give out the line as fast as the kite will carry it up well, until you have reached the end of your ball. When you have succeeded in fairly raising it, so that it keeps its place pretty steadily, you will find much pleasure in watching its motions and studying their cause.

Something about that Horned Frog.

To the Editor of the American Agriculturist:

The life-like picture of the *Horned Frog*, furnished in the January number of your interesting paper, (p. 24,) would be instantly recognized by any one who had once seen a member of the family.

This little animal is found in the middle and western portion of Texas, from the coast far into the interior. For some sixteen years I have been an admirer of the little fellows as they have scampered off before me, in my walks, or fled from under my horse's feet as I journeyed over our beautiful rolling country. The Horned Frog lives upon the ground—hiding in the grass in Summer, and burrowing below the surface in the Winter. It is perfectly harmless; and it is no uncommon thing for children to catch a number of them, and pen them up as pets—handling them as familiarly as they would chickens.

This frog will live for weeks in a glass bottle, without either food or drink, but when fed with flies or sugar, it eats sparingly. It never climbs, even upon a low bush, but always runs upon the ground. With a remarkably bright eye, and knowing look, it flees upon the approach of any one, and when caught, only struggles to get loose, without seeming to have any power to defend itself. No amount of teasing will, ordinarily, cause it to show a disposition to retaliate. During the past Summer, I found two disposed to fight; and these were the only ones I ever found so inclined. These were quite pugnacious without any seeming provocation, turning upon me of their own accord. Their mode of fighting is as curious as the little animal is unique. They turn the head down, and butt, like the sheep or goat. One of the two struck so hard against my boot as to start the blood quite freely from the roots of the two prominent horns upon his head.

The *Horned Frog*, I believe, deposits its eggs in the ground, like turtles, some species of snakes, and the alligator. The latter is said to watch near its nest about the time of the appearance of the young ones, and to attack anything that may approach. From the season of the year (July), when the pugnacity was shown by the two frogs alluded to, I thought it might be possible they were guarding their nests or their young about to appear. Perhaps the editor, or uncle Frank, will make a new classification for the benefit of his young readers, founded on the butting propensity of the animal.

Austin, Texas.



PROB. 37. A Rebus (or Riddle). The above illustration, originated and engraved expressly for this column, will really puzzle the boys and girls. The pictures and letters taken together, make up a sentence of six words, well worth remembering. How many of you can write out the sentence. We think it will last some of you a month.

STRANGE!! Two of our young readers, M. E. S. and H. Cond, say they have written out 115 different words, using only the letters s-t-r-a-n-g-e, but sometimes introducing one or more of these letters twice in the same word. This sounds rather strange at first, but we suppose of course it can be done. Such exercises are, perhaps, not very profitable; but better be studying out such combinations than to be in mischief.

Answers to Problems.

PROB. 35.—The driving-wheels of a locomotive being six feet in diameter, and making four revolutions per second, at what speed must a horse, twenty feet from the track, be driven to cross it before the engine arrives, if the engine is three hundred feet from the crossing? provided the track be six feet wide. (The width of the track was inadvertently omitted in giving out the question; we therefore counted those right who reckoned twenty feet to include the width of the track, and answer, five feet per second—a small fraction omitted.) Allowing six and a half feet for the track, we have as very nearly, the

Answer: Six and a half feet per second. Correct answers received up to March 17, from: O. W. Lyman; Hermann Cook; Jno. H. Tissiman; Martin V. Young; R. E. Flickinger; M. H. Labar; Elizabeth Engle; A. B. Carpenter; C. Hoffman, Jr.; J. J. Schauweker; Thos. Wright; James H. Orr; David S. Farlow; W. J.

Austin; Reed W. Anderson; R. Markwich; T. H. Smith; David Hecker; C. M. Ross; G. M. Bays; Noah M. Given; J. Bleakney; Geo. H. Selleck; W. K. Schenck.

PROB. 36. Three farmers, A, B and C, went to market to sell eggs. A had 10 eggs, B 30, and C 50. They each sold their stock at the same price per egg, and after all were sold, they found that each had the same amount of money. How was this done?

Ans. When they arrived at the market, eggs were worth one cent each, at which price each sold part of his eggs. The price rose rapidly, and at a second sale they each disposed of what remained after the first sale, for 6 cents each. Then their accounts stood thus:

Morning. A sold 1 egg, at 1 cent — 1 } 55 cents.

Afternoon. A sold 9 eggs, at 6 cents — 54 } 55 cents.

Morning. B sold 25 eggs, at 1 cent — 25 } 55 cents.

Afternoon. B sold 5 eggs, at 6 cents — 30 } 55 cents.

Morning. C sold 49 eggs, at 1 cent — 49 } 55 cents.

Afternoon. C sold 1 egg, at 6 cents — 6 } 55 cents.

Thus, then, they all sold at the same price at the time they made their sales. Variations may be made in the number disposed of at the different sales; also, in the number of sales; and likewise in the whole amount received, if this amount be the same for each. This question was answered correctly by J. W. Bishop; E. Wiest; M. A. Aldrich; Martin V. Young; Martin Marshall; W. L. Durand; Thos. Jordan; R. C. Treat; H. Cook; Osborn W. Lyman; Thos. Wright; G. W. Losse; H. Zook; Jno. H. Tissiman; R. E. Flickinger; Morris H. Labar; Elizabeth Engle; A. B. Carpenter; Chandler Eves; L. Adams; C. Hoffman, Jr.; J. J. Schauweker; Wm. Carpenter. (Thanks for your kind words.)



Into which are thrown all sorts of paragraphs—such as NOTES and REPLIES to CORRESPONDENTS, with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources.

Important Notice.—Hundreds of letters have been received this year, in which either the Post Office or State is omitted. These must both be given in all cases. The county should also be named. When an address is to be changed, the old as well as the new Post Office must be given, or the change can not be made. Nine out of ten of all the complaints made, result from the above omissions. When a complaining letter comes, if it gives us the needed address, we make the correction, but seldom take the time required to write a letter of explanation. We take very coolly the blowing up we sometimes get for omitting to send papers, or "return money," to a man residing in the moon, for ought we can learn from his letter.

Grafting Old Fruit Trees.—J. Fanning, M. D., Oxford Co., Me., recommends cutting off the limbs of old trees, and covering the ends with grafting wax, the Spring before the grafts are to be set. The stock will send out many young shoots, all of which are to be left until the following year. Then select the strongest shoots, and as many of them as are wanted to form a well-shaped top, and put the cuttings into these by splice grafting, using the usual precautions to exclude the air. Remove about three quarters of the other sprouts, and the following year prune the rest away. In this way, he says, he has had great success.

Planting Currants and Gooseberries.—R. Craig, Indiana Co., Pa. These should be planted in good soil, in rows, about four feet apart. Avoid putting them against the fences; this leaves no room to cultivate around them, and also shuts off the light.

Stocks for Madeira and other Nuts.—J. W. Redfield, Bledsoe Co., Tenn. The Madeira nut would probably succeed grafted on hickory, the almond on the peach or plum, and the French chestnut on the common species. The Peccan nut does best raised from seed. The seedsmen who advertise in our columns can generally furnish supplies of these nuts.

Norway Spruce for Hedges. E. Adams, Livingston Co., N. Y. The Norway Spruce forms a beautiful ornamental hedge, and would serve admirably for a belt for sheltering an exposed locality. For fencing against stock it is not equal to some other plants, as the Osage Orange, Buckthorn, etc. Its high cost prevents its coming into general use at present.

American Guano.—F. W. Ade, Columbia Co., N. Y. We have no advice to give you in regard to purchasing this fertilizer. As we understand the operation of manures, no fertilizer is worth buying, which is composed principally of phosphate or other mineral elements.

Upland Cranberries.—Wm. Robinson, Union Co., O. This variety would, probably, grow on a light loam. We have not, as yet, heard of any very successful results with the upland plant.

Cultivation of Cranberries.—Several correspondents will find full information given in Vol. 16, pages 9 and 130, also in Vol. 17, page 82.

Catalogue of Reliable Apple Trees.—E. Adams, Livingston Co., N. Y. No general catalogue of reliable trees for all sections could be given, for the reason that in different localities the same varieties have very different success. Experiments can only determine the kinds best for any section of country.

Hunting Bee Trees.—M. D. B., Spring Prairie, Wis., thinks that before the leaves have started on the trees in Spring, is the best time to hunt for wild bees, as they come out freely on pleasant days, and can then be more easily seen.

Transplanting Budded Trees.—Thomas Glenn, McCoupin Co., Ill. It is not best to transplant trees the year after budding. Disturbing and wounding the roots impairs their vital strength, all of which they need to ensure the growth of the bud.

Where to procure Seeds.—J. C. Caldwell and others. In our advertising columns you may find a complete directory giving all necessary information.

Sprouting Black Locust Seed.—J. P. Lane. Pour boiling water upon them, let them stand until cold, and then plant.

Dwarf trees becoming Standards.—Vulcan, Harford Co., Md. If the junction of the graft with the stock be planted below the surface of the ground, the trunk will usually send out roots, and thus the tree may, in time, become a standard. It would however be a more expensive and less certain way of procuring standard trees than to buy them well rooted, at the first. The object in grafting on quince and other stocks, is to keep the trees dwarfed.

Timothy after Hungarian Grass.—J. N. Hunter, Westchester Co., N. Y. A field may be laid down to Timothy after cropping with Hungarian Grass. This (so called) grass, which is just now making some noise, under a new name, is a variety of millet. In some sections it may be a paying crop. See article "Honey Blade Grass Swindle," March No., page 71.

Frozen Lakes in Scotland.—A Correspondent criticises Landseer's picture given in the February number, p. 41, by asking how the Stag could have swam a frozen lake in Winter. We must refer him to the painter for an answer. However, a Scotchman at our elbow says many of the Lakes are partially enclosed estuaries of salt water. In the Highlands, there are frequent lakes fed by Springs which do not freeze over. We know of several such lakes in this country.

To make Cows "give down" their Milk.—J. B. Whitaker, Delaware Co., Iowa. Feeding the cow with slops, or something of which she is fond, during the operation of milking, will some times be effectual. Also "bunting" the bag with the fist, in imitation of the calf may have the desired effect.

Prevention of Borers in Trees.—J. N. Van Zandt, Mifflin Co., Pa., recommends removing the earth from around the base of the trunk and killing all the grubs which may be found, then winding strips of woolen cloth (we like stout paper) around the trunk, from beneath the surface of the ground to say one foot above, covering it well with tar, and returning the soil to its place. He thinks if this be done in the Spring and again coated with tar in July, it will answer for two years.

Planting Pea Weevil.—J. Simpson, Passaic Co., N. J. Better not plant the peas before the bugs (weevil) are destroyed by hot water or steam. The peas will most of them grow, but the weevil will also multiply. Put the peas in a colander covered with a plate, and set it over a kettle of boiling water; the steam will soon kill the bugs, without materially injuring the peas.

That Silver Medal, mentioned in our last number, as having been awarded to D. D. C. Morris for corn raised from *Agriculturist* seeds, should have been credited to D. W. C. Morris. Mr. M. informs us that it was one among seven premiums just received, which he happened to have with him when calling at our office for his annual share of seeds.

Can my Son succeed in New-York?—E. B., Ohio. There are occasional opportunities for a young man to enter business here with prospect of success, if his moral principles are correct and thoroughly established, and he be of the go-ahead order. But there are four hundred and ninety-nine failures to one success. Better embrace a fair opportunity nearer home, where friends will assist, than risk all for a golden prospect.

Market Review, Weather Notes, &c.

AMERICAN AGRICULTURIST OFFICE,
New York, Wednesday Evening, March 23, 1859.

As will be noted in a table below, prices of Breadstuffs are higher than at our last report. Early in the month they were still higher than now. The receipts of Flour, Wheat and Corn were light, and speculators pushed up the prices. As remarked last month, the sales reported in the aggregate below were mainly between speculators themselves—regular dealers buying only what was required for consumption. For the past ten days prices have declined, owing to the opening of navigation, favorable reports from the growing Wheat crop, and the absence of foreign demand. Everything considered, the advance since last November of \$2 per barrel, on Flour, and 36 cents per bushel on Wheat, is remarkable.

The revival of business, and the acknowledged moderate supply of Breadstuffs at the West may keep up this advance through the Summer, but it can hardly be looked for. The stock of Barley is large, having been increased by recent arrivals from California. Rye is dearer, with moderate sales. Oats are heavy and languid. The Cotton trade has been unusually large, with improving prices. Available supply here, 90,289 bales, against 40,245 last year. Receipts at all shipping ports to latest dates this year, 3,037,549 bales, against 2,128,922 bales to same time last year. Total United States Exports so far this year, 1,690,436 bales, against 1,241,883 bales at same date last year. Total stock on hand on ship-board and in port, 943,653 bales; last year, 783,008. Stock in interior towns 151,079 bales; last year, 107,980 bales. Provisions have continued irregular in prices, but with pretty brisk demand for principal kinds, except Butter and Cheese. Butter being unusually plenty. Tobacco, Meal and Rice have been in lively demand at buoyant prices. Hay and Seeds have been in fair request at uniform rates. Hemp, Hops, Feathers, Oil-Cake and Tallow, inactive. Groceries have been in demand, especially Coffee and Teas, at former prices.

RECEIPTS. Flour. Wheat. Corn. Rye. Barley. Oats.
26 bus. days this mon, 101,078 12,173 176,734 54,659 40,200
29 bus. days last mon, 110,750 9,100 121,350 1,760 88,339

SALES. Flour. Wheat. Corn. Rye. Barley
24 business days this month, 428,503 637,150 545,600 8,650 84,300
24 business days last mon, 388,918 423,670 511,450 10,158 199,110

EXPORTS OF BREADSTUFFS FROM N. Y., FROM JAN. 1ST,
TO MAR. 14.

	1858.	1859.
Wheat Flour, bbls.....	283,716	93,803
Rye Flour, bbls.....	1,178	1,506
Corn Meal, bbls.....	13,196	16,665
Wheat, bush.....	264,306	17,349
Corn, bush.....	570,742	31,383

The following is a statement of the exports of the principal kinds of Breadstuffs, from the Atlantic ports of the United States, since Sept. 1, 1858:

From	To Date.	Flour, bbls.	Wheat, bush.	Corn bush.
New-York, to March 11.....	83,689	380,532	299,172	
New-Orleans to March 1.....		3,375	2,250	
Philadelphia to Feb'y 28.....	2,029	20,281	14,081	
Boston to March 4.....	40			
Other Ports to Feb'y 25.....		11,612	3,949	

Total from Sept. 1, 1858..... 85,758 415,800 319,452
To about same period, 1858..... 712,496 3,337,332 1,515,818
To about same period, 1857..... 682,066 3,739,339 3,249,414
To about same period, 1856..... 682,470 3,570,982 3,048,387

TO THE CONTINENT.
New-York to March 1, 1859. 28,391 51,258 17,179
Other Ports, to latest dates. 13,853 6,020 8,175

	Feb. 21.	March 23.
Flour—Super to Extra State \$5	55 10	55 50 @ 6 80
Common to Fancy Western.....	5 40 @ 5 75	5 55 @ 6 10
Extra Western.....	6 00 @ 6 75	6 50 @ 6 75
Fancy to Extra Genesee.....	6 25 @ 6 00	6 80 @ 8 00
Mixed to Extra Southern.....	5 91 @ 6 75	6 25 @ 6 75
Rye Flour—Fine and Super.....	3 70 @ 4 30	3 65 @ 4 25
CORN MEAL.....	3 70 @ 4 25	3 75 @ 4 40
WHEAT—Canada White.....	1 37 1/2 @ 1 60	None offering.
Western White.....	1 37 1/2 @ 1 75	1 50 @ 1 80
Southern White.....	1 37 1/2 @ 1 80	1 45 @ 1 80
All kinds of Red.....	90 @ 1 45	1 00 @ 1 55
CORN—Yellow.....	79 @ 85	88 @ 90
White.....	80 @ 86	88 @ 90
Mixed.....	81 @ 86	88 @ 90
OATS—Western.....	31 @ 61	60 @ 62
State.....	31 @ 58	56 @ 58
Southern.....	48 @ 53	48 @ 54
RYE.....	82 @ 86	88 @ 95
BARLEY.....	73 @ 95	65 @ 85
White Beans.....	1 20 @ 1 35	1 25 @ 1 30
HAY, in bales, per 100 lbs.....	65 @ 85	65 @ 80
COTTON—Middlings, per lb.....	11 1/2 @ 12 1/2	12 1/2 @ 12 1/2
RICE, per 100 lbs.....	3 25 @ 4 25	3 25 @ 4 50
HOPS, crop of 1858 per lb.....		10 @ 18
PORK—Mess, per bbl.....	17 37 1/2 @ 18 12 1/2	17 75 @ 18 40
Prime, per bbl.....	13 25 @ 13 37 1/2	13 10 @ 13 20
BEEF—Repacked Mess.....	9 00 @ 11 00	9 50 @ 11 50
Country mess.....	8 00 @ 9 25	8 50 @ 9 62 1/2
HOGS, dressed corn, per lb.....	8 1/2 @ 9 1/2	7 @ 8 1/2
Lard, in bbl, per lb.....	11 1/2 @ 12 1/2	11 1/2 @ 12
BUTTER—Western, per lb.....	11 @ 12	10 @ 17
State, per lb.....	16 @ 27	15 @ 26
CHEESE, per lb.....	9 @ 11 1/2	8 @ 11
EGGS—Fresh, per dozen.....	20 @ 21	17 1/2 @ 19
FEATHERS, Live Geese per lb.....	44 @ 48	42 @ 52
SEED—Clover, per lb.....	1 05 @ 1 15	1 0 @ 1 1
Timothy, per bushel.....	2 00 @ 2 75	2 00 @ 2 75
SUGAR, Brown per lb.....	6 1/2 @ 8 1/2	6 @ 8
MOLASSES, New-Orleans, prgl.....	39 @ 40	38 @ 40
COFFEE, Rio, per lb.....	95 @ 124	105 @ 124
TOBACCO—Kentucky, &c, pr lb.....	53 @ 55	53 @ 55
Seed Leaf, per lb.....	6 @ 25	6 @ 25
Wool—Domestic fleece, per lb.....	37 1/2 @ 62 1/2	45 @ 65
Domestic, pulled, per lb.....	32 @ 50	34 @ 55
HEMP—Under Amer'n per ton.....	115 @ 135	150 @ 160
Dressed American, per ton.....	170 @ 180	195 @ 225
TALLOW, per lb.....	11 @ 11	10 @ 10 1/2
OIL, CARBON, per ton.....	34 00 @ 37 00	34 00 @ 38 00
POTATOES—Peach Blow, pr bbl.....	1 62 @ 2 00	1 75 @ 2 00
Musculata, per bbl.....	1 50 @ 1 87	1 75 @ 1 87
TURNIPS—Rutabagas, per bbl.....	3 87 @ 4 00	4 22 @ 4 75
ONIONS, per bbl.....	3 00 @ 4 00	3 00 @ 5 00
APPLES—Prime, per bbl.....	3 50 @ 5 00	4 00 @ 5 00

Dried, per lb.....	9 @ 10	9 @ 10
POULTRY—Fowls, per lb.....	10 @ 12	11 @ 14
Ducks, per lb.....	16 @ 18	14 @ 18
Turkeys, per lb.....	13 @ 15	13 @ 15
Geese, per lb.....	8 @ 10	8 @ 10
Venison—Carcase, per lb.....	6 @ 8	7 @ 9

N. Y. Live Stock Markets.—THE CATTLE MARKETS have been rather scantily supplied during the past month, and prices have kept pretty well up. The receipts for the 5 weeks ending March 23d, number 16,623, or a weekly average of 3,324. The closing prices stand: Premium cattle, 11 1/2 c. @ 12 1/2 c.; Prime quality 9 1/2 @ 10 1/2 c.; Medium 8 1/2 c. @ 9 1/2 c.; Poor 7 c. @ 8 c.; average sales 9 1/2 c. 1/2 lb. net or dressed weight.

SHEEP AND LAMBS.—Receipts of live sheep have been very light, amounting to only 23,487 for the past five weeks. They are very scarce just now, and are worth 7 c. @ 7 1/2 c. live weight. A few extra fat ones bring \$15 each, or 8 c. 1/2 lb. gross weight.

HOGS.—Receipts for the five weeks just ended amount to 35,019. The demand is not active as warm weather approaches. Heavy corned hogs are now worth 6 1/2 c., and light hogs 6 1/2 c. 1/2 lb. live weight, or 4 c. less than last month.

The Weather, during the past month, has been marked by sudden changes and some severe storms, with a general temperature, however, remarkably mild. Rain has fallen in great quantity, causing floods in some districts. The season at present is the most forward experienced in this latitude for several years, and if not followed by cold weather in April, will prove favorable to the farmer and fruit grower. Our DAILY NOTES read, Feb. 23 and 24, very warm and summer-like—25, cloud A. M., snow P. M.—26, snow and rain—27 and 28, fine, clear and warm. March 1 and 2, clear and fine—3, snow, with rain at night—4, cloudy—5 and 6, warm and clear—7, cloudy, with rain at night and on the 8th—9 and 10, fine Spring days—11, cloudy A. M., rain at night—12, rain A. M., fine P. M.—13, clear and very Spring-like—14, cloudy, warm rain at night, with a heavy storm 15th—16, clear and fine—17, clear A. M., cloud P. M., rain at night—18, N. E. rain storm—19, cloudy, with high wind—20 and 21, clear and pleasant—22, cloudy, rainy night—23, fair and warm.

The circulation of the Agriculturist to regular subscribers, is much larger than that of any other Agricultural or Horticultural Journal in the world.

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The dwelling above referred to, now for sale, was bought a few years since by Dr. Strong, as a permanent home, after a thorough examination of all the localities near New-York, and his transfer to the Troy University is the only reason for its now being offered for sale.

The LOCATION of the dwelling is elevated, having a fine

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The Editor of the American Agriculturist has resided in Flushing for some years (and has lately purchased a permanent country seat there). The agents for the sale of the above place therefore by permission refer any inquirer to him, as his personal and intimate acquaintance with the location and character of the premises will enable him to speak definitely in regard to it. He is also in possession of the terms of sale, etc.

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&		&
70		70

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Any larger quantity of not more than three pounds, sent by mail at the same rates. All of the above by the 100 or 1000 at the lowest rates, by express.

Cash or 3-cent stamps must accompany orders, which will be filled as soon as the season will admit.

Ridgefield, Conn., March 1, 1859. F. A. ROCKWELL.

CARROT SEED,

Of the Long Orange Variety. First rate at \$1 per pound, by DAVID H. SHERWOOD, Southport, Conn.

A Choice lot of Cherry Trees for sale on

time. We also offer a general assortment of Fruit Trees—Mazzard Cherry Pits, and Cherry Seedlings at great bargains for the Spring trade. Potato Seeds from the ball. By

J. D. CONKLIN, Locke, Cayuga Co., N. Y.

PRIME KING PHILIP CORN AND SEED OATS.

Just received, at the new

AGRICULTURAL AND HORTICULTURAL IMPLE-

MENT AND SEED STORE,

No. 54 Vesey-st., New-York, 100 barrels of an extra quality of Early King Philip Corn (genuine) shells, 19 quarts to the bushel; also, a superior lot of Seed Oats, 40 pounds to the bushel; also, all kinds of Grain, Grass, Field and Garden Seeds, all entirely new and fresh. Implements, Fertilizers, &c. &c.

Call and examine them, or send for a seed catalogue.

A. P. MAYHER & CO., No. 51 Vesey-st., New-York.

Remember No. 51 Vesey-st., between Broadway and Green-

wich-st., near Washington Market, New-York.

TREES CHEAPER THAN EVER.

Fruit and Ornamental Trees, Shrubs, Vines, &c. Wishing to clear off a piece of ground, I offer the stock on it at very low prices, in quantities. Priced catalogues of the same sent on application.

Nurseryman and Dealer in all kinds of Trees, Plants, &c. GEO. D. KIMBER,
FLUSHING, 3d month, 15th, 1859.

HARDY NATIVE EVERGREENS.—

JOHN W. ADAMS, Portland, Me., continues to supply Arbor Vite, Hemlock, Fir, Spruce, Pine, &c. of small sizes, at \$10 to \$12 per 1,000. Catalogues sent to applicants.

NURSERY.—Partner and Capital wanted

in a Nursery established 12 years. Address Box 115, Syracuse, N. Y.

80,000 ANGERS QUINCE STOCKS.

Quince Stocks, Willow and Privet Cuttings and Stocks, Grape Vines, Currant Bushes, Osage Orange 2 year plants, and a great variety of other Ornamental, Shade and Fruit Trees, for sale very cheap. Also French Pear Stocks
COWLES & WARREN, Syracuse, N. Y.

AGRICULTURAL DEPOT,

100 Murray-st., near North River,

NEW-YORK,

Where may be found a fine assortment of first quality improved Farm implements, Machines, Seeds, Guano, Phosphate, etc.

HENRY F. DIBBLEE.

FIELD AND GARDEN SEEDS from re-

liable growers.

Agricultural and Horticultural Implements, of the most approved patterns.

GRIFFING, BROTHER & CO.,
60 Cortland-st., New-York City.

The New Rochelle or Lawton, } Blackberry Plants.

Lawton or New Rochelle, }

PRICES REDUCED.

The undersigned agents for Messrs. GEO. SEYMOUR & CO., and other nurserymen of position and reputation, offer the above remarkable plants at the following very low range of prices.

One Thousand Plants..... \$30 Fifty Plants..... \$6

Five Hundred Plants..... 41 Two Dozen Plants..... 3

One Hundred Plants..... 10 One Dozen Plants..... 2

Good Plants for setting of a second size, will be sold for \$60 per 1,000 Plants, or \$8 per 100 Plants.

WARRANTED GENUINE.

Also pamphlet on ORIGIN, HISTORY, characteristics, and culture of the same. DREW & FRENCH,

Produce Commission Merchants,
85 Barclay Street, New-York.

Lawton Blackberry Plants.

Of the original stock, and each dozen separately secured in boxes for convenience of distribution by Clubs, and packed in boxes.

SCALE OF PRICES BY THE DOZEN.

A box of one dozen..... \$2

three dozen..... 5

eight dozen..... 10

eighteen dozen..... 20

fifty dozen..... 50

The name and direction of purchaser should be distinctly written, and the money accompany the order.

Address WILLIAM LAWTON, 15 Wall-st., New-York.

Directions for culture furnished free.

New-Rochelle or Lawton

BLACKBERRY PLANTS.

The Subscriber having 2 1/2 acres of the above plants in cultivation at the St. Louis County Fruit Garden, situated at Eureka Station, P. R. R., is prepared to fill large orders the coming Fall and Spring at the following Eastern prices, packed and delivered at any express office in St. Louis free of charge:

100 plants..... \$10 00 50 plants..... \$6 00

25 plants..... 3 50 12 plants..... 2 00

The money should accompany the order.

JOHN S. SEYMOUR,
Allenton, St. Louis Co., Mo.

LAWTON BLACKBERRY.

For the original variety, for Circulars free, address WM LAWTON, New Rochelle, N. Y.

The Allen Raspberry.

I can supply, after 1st April next, a quantity of these highly valuable, well approved, thoroughly hardy plants, which I have had in successful bearing for the past ten years. Price \$1 per dozen; \$6 per hundred; \$50 per thousand. Orders, with money enclosed, addressed to the undersigned, Black Rock, N. Y., will meet immediate attention. They can be sent by express, or delivered to all parts of the country.

March 1st, 1859. LEWIS F. ALLEN.

BRINCKLE'S ORANGE RASPBERRY,

At reduced rates.

We offer a large stock of this very superior Raspberry to Nurserymen and Fruit Growers, at very low prices. Address

H. C. FREEMAN,
Late FREEMAN & KENDALL,

Fruit Garden, Ravenswood, L. I., near N. Y.

MYATT'S LINNEUS RHUBARB.

To Nurserymen and Market Gardeners, in large quantities, very low. This is the earliest and most productive variety—most profitable for market. Circulars, with testimonials, furnished on application. Address

H. C. FREEMAN,
Late Freeman & Kendall,

Ravenswood Fruit Garden, Ravenswood, L. I., near N. York

9,000 Plants Linnaeus Rhubarb.

BROWNLEE BROWN, Newburgh, N. Y.

BEEES.

THE MYSTERIES OF BEE-KEEPING EXPLAINED.

With an Appendix, giving directions for making in a cheap form, and using, the Movable Combs of L. L. Langstroth, will be sent free of postage, for \$1. Address

M. QUINBY,
St. Johnsville, Montgomery Co., N. Y.

PARSONS & CO.

Are now sending out from their
NURSERIES AND GREEN-HOUSES

AT
FLUSHING, LONG ISLAND.
Fruit and Ornamental Trees.
EVERGREENS.

Flowering Shrubs, Vines, Roses, &c., &c.,
of the best varieties and of handsome form and vigorous growth.
For lists of varieties they refer purchasers to their advertisements in the February and March numbers of the *Agriculturist*, and to their priced catalogues, which can be obtained by application, by mail, and at 179 Broadway, and 189 Water-st., New-York.

They invite attention to their fine stock of

FRUIT TREES,

of all the different species, and they offer at low rates, a fine collection of Dwarf Pear Trees,
Peach Trees, of 1 and 2 years' growth,
Cherry Trees,
Apple Trees,
Raspberries,
Blackberries,
Currants, Versailles, Cherry, &c.,
Pear stocks, very strong, transplanted.

They invite special attention to their stock of

EVERGREENS,

especially **Spruces,**
which range from small plants, transplanted at \$25 per thousand, to those of 10 feet in high.

Particular attention has been given to their being handsomely formed and well rooted.
Their collection of

LAWN AND AVENUE TREES,

is unsurpassed, and they can put at very low rates, by the hundred and thousand, a large variety of choice

Flowering Shrubs.

They ask the attention of the Trade to their collection of

New and Rare Plants,

of various sizes, and suited both for Nursery planting and for immediate sale.
Orders will be filled with promptness and care.
Trees and plants delivered on Fulton Market Wharf, free of charge to the purchaser.

PEAR TREES.

Pyramid and Standard Pear Trees, on both Quince and Pear Stocks, of all the leading kinds, of fine shape, very thrifty, and well rooted, for sale by the subscriber. These trees are among the best in the market, and may be relied upon in every respect.
Price for selected trees, from 4 1/2 to 6 feet high, \$40 per 100. Small lots 50 cents each.
THOS. W. FIELD,
140 Fulton-st., New-York.

The Hooker Strawberry,**THE BEST YET INTRODUCED.**

The attention of amateurs and growers of fruit for market is again called to this Strawberry. All that its friends have hitherto claimed for it has been more than fulfilled, and testimonials without end could be produced to attest its superiority over any other sort.

The following, making a list of advantages, all of which no other Strawberry can claim, constitute its chief points of excellence: and planters are confidently asked to verify them.

1st—The plant is very vigorous and perfectly hardy.
2d—It is as productive as any other variety. ("Wilson's Albany" not excepted.) The fruit is borne in large clusters—more than 20 perfect berries being frequently gathered from a single stem.

3d—The flowers are all perfect and uniformly productive of fruit, consequently there are no barren plants.

4th—The fruit is absolutely unequalled in flavor, in color a rich dark crimson or mahogany extending into the heart of the berry, which is firm and solid to the center: OF THE LARGEST SIZE yet tender and delicate.

5th—It takes the 1st premiums wherever exhibited. See reports of various horticultural societies.

Plants in any quantity desired may be obtained pure and strong from the grounds where it originated. Packages are put up to go safely to any part of the United States by mail or express. Order for Spring planting, if only a few for trial, of

H. E. HOOKER & CO.,
Commercial Nurseries,
Rochester, N. Y.

WILSON'S ALBANY SEEDLING.—

The best and most prolific Market Strawberry. Yields 150 to 200 bushels per acre! Genuine Plants of this superior variety for sale, in large or small quantities. Price, \$10 a thousand—\$1 50 a hundred, or \$1 for fifty.
True Red Antwerp Raspberry Canes, \$4 per 100—\$2 50 for 50, or 16 for \$1.
New-Rochelle (or Lawton) Blackberry Canes, \$10 for 100—\$6 for 50—\$3 for 25—\$2 per dozen.
All plants ordered, securely boxed and delivered in Albany, without extra charge.
Orders accompanied by cash promptly attended to.
WM. RICHARDSON,
95 South Pearl-st., Albany, N. Y.

PEABODY'S SEEDLING STRAWBERRY PLANTS

delivered at any Express Office in N. Y. for \$10 per 1000.
N. HALLOCK, Queens, Queens Co., N. Y.

Cranberry Plants.

GENUINE PLANTS OF THE BELL VARIETY.

NEW-ROCHELLE (Lawton) BLACKBERRY.
HOP TREES, *Picea Triflora*—superior to common hops for culinary purposes, also very ornamental.
Circulars relating to the above will be forwarded to applicants.
Also for sale Tree Varnish for keeping out air and water from cuts, wounds, &c., on trees. 6 bottles for \$1. For sale by F. TROWBRIDGE & CO.,
At the New-Haven Nursery, New-Haven, Ct.

**Fruit and Ornamental Trees
For Spring of 1859.**

ELLWANGER & BARRY, beg to inform Planters, Nurserymen and dealers in trees that they have still on hand to offer for Spring planting a large stock of the following named articles of superior quality in all respects.

FRUIT DEPARTMENT.

STANDARD PEARS on pear Stock 2 and 3 years from bud.
DWARF AND PYRAMID PEARS on quince stock, 2 & 3 yr. from bud.
DWARF AND PYRAMID APPLES on paradise and Doucin, 1, 2 and 3 years from bud.
STANDARD CHERRIES on Mazzard stocks 2 years from bud.
DWARF AND PYRAMID CHERRIES on Mahaleb stocks, 1 and 2 years from bud.

APPLE QUINCES, grafted 2 and 3 years from graft.
ENGLISH WALNUTS, Butternuts, Spanish Chestnuts, Filberts, &c.
HARDY GRAPES, including Isabella, Catawba, Clinton, Concord, Diana, Rebecca, Monticott, and other new varieties.

FOREIGN GRAPES for Vines, all the most esteemed varieties, well ripened plants in pots, 1, 2 and 3 years old from the eye.

BLACKBERRIES, New-Rochelle or Lawton, and Dorchester.
GOOSEBERRIES, The American Seedling, and large English varieties.

STRAWBERRIES, upwards of 60 varieties, including all the best-American and Foreign varieties.

CURRANTS, Red Dutch, Victoria, White Grape, Black Naples, Black English, &c., &c.

RHUBARB, Myatt's Linbus, Victoria, Prince Albert, &c.
ASPARAGUS, Strong Roots.

STOCKS.

MAZZARD Cherry Seedlings. MAHALEB Cherry Seedlings.

ORNAMENTAL DEPARTMENT.

DECIDUOUS STANDARD LAWN TREES.

DECIDUOUS WEEPING LAWN TREES.

EVERGREEN TREES, embracing an immense stock of Norway Spruce from 6 inches to 6 feet, also rare California Evergreens, &c.

(See special Advertisement.)

FLOWERING SHRUBS, all the most desirable, a very large stock CLIMBING SHRUBS, of all sorts.

ROSES, The largest stock in the country of all the best sorts both on the Mahaleb Stock and on their own roots—(See Catalogue.)

HERBACEOUS PEONIES, a superb assortment of more than 75 varieties.

DAHLIAS, over 100 of the most beautiful varieties including the latest novelties.

PHLOXES, an unrivalled assortment embracing all the classes.

DIELYTRA SPECTABILIS, the most charming hardy border plant in cultivation, over 10,000 plants.

CHRYSANTHEMUMS, both large and pom-pom varieties, the newest and best.

CARNATIONS and PICOTEES, a fine collection.

DELPHINIUM HENDERSONII, *Magnificum*, and other beautiful sorts.

Besides all the most desirable hardy border plants grown (See Descriptive Catalogue No. 3).

GREEN-HOUSE AND BEDDING PLANS.

All the most useful and popular plants such as Fuchsias, Geraniums, Heliotropes, Verbenas, Petunias, Lantanas, Veronicas, Hydrangeas, Bonvardias, P. umbagos, &c., &c., grown extensively and supplied in quantities, or by the dozen, assorted, at low rates. (See Catalogue No. 3.)

SUMMER AND AUTUMN BLOOMING BULBS.

A superb collection of the new Gladioli, and Japan Lilies, besides Tuberoses, Tigridias, &c.

We can say without boasting that our present stock has never been surpassed in vigor, health, and beauty of growth. We invite all parties interested to examine it and satisfy themselves.

Packing for distant parts, executed in the most careful and skillful manner, and customers treated in all respects with fairness and liberality.

For full and detailed information respecting the stock, prices, terms, &c., we refer to the following catalogues which will be sent gratis, pre-paid to all who enclose one stamp for each. Viz.

No. 1.—Descriptive Catalogue of Fruits.

No. 2.—Descriptive Catalogue of Ornamental Trees, Shrubs, Roses, &c., &c.

No. 3.—Descriptive Catalogue of Dahlias, Green-House, and Bedding Plants, &c.

No. 4.—Wholesale Catalogue for Nurserymen, Dealers, and others who purchase in large quantities.

ELLWANGER & BARRY,

MOUNT HOPE NURSERIES,

March 1st, 1859. Rochester, N. Y.

Stephen Hoyt and Sons,

New Canaan, Ct.

3 1/2 MILES FROM NORWALK.

Offer for sale a large and choice stock of Fruit and Ornamental Trees. Comprising
30,000 Apple Trees, 3 and 4 years from the bud or graft.
20,000 Peach Trees, 1 year from bud.
And an assortment of Pears (Standard and Dwarf), Cherries, Plums, Apricots, Quince, &c., &c.
20,000 Norway Spruce from 1 to 5 feet high.
20,000 American Arbor Vitae, from 1 to 6 feet high.
100,000 Sugar Maple Seedlings, 1 year old.
100,000 Elm Seedlings, 1 year old.
20,000 French Quince Stocks (Well rooted and Cheap).
New Canaan, Ct., Feb. 16th, 1859.

AMERICAN HOP TREE.

The subscribers recommend the above Tree as a substitute for the unsightly and troublesome Hop Vines. The Hops grow in large clusters, are much stronger, and always preferred to the ordinary Hops.

The tree is perfectly hardy, highly ornamental, and will bear the second year from seed. Trees from 75 cents to \$1 50 each, or seeds free by mail for nine three cent stamps.
McLAVIN & YOUNG, Seedsmen and Florists,
9 John-st., New-York.

THE SUBSCRIBER furnishes Fruit and Ornamental Trees, Flowering Shrubs, Grape Vines. Plants and Shrubs of all kinds carefully packed from the best nurseries and conservatories in the United States.

Books, all the standard works on Nurseries, Farming, Gardening, Fruits, Cattle, Horses, Sheep, Swine, Poultry, etc., at publishers' prices.
R. L. ALLEN, 191 Water st., N. Y.

ELLWANGER & BARRY'S "Mt. Hope Nurseries," Rochester, N. Y. The largest Nurseries in this country. Agency at Agricultural Depot, 100 Murray-st., N. Y. HENRY F. DIBLEY.

Rare and Beautiful Flowers.**B. K. BLISS,**

Seedman and Florist—Springfield, Mass.

Would invite the attention of all who love the cultivation of Flowers to his large and splendid assortment of English, French and German Flower Seeds, received from the most trustworthy sources, and embracing all of the most desirable varieties in cultivation.

The seventh annual edition of his Descriptive Catalogues of Flower, Vegetable and Agricultural Seeds arranged on an improved plan, and containing much valuable information, both to the novice and amateur, is now ready for delivery, and will be sent post-paid to all applicants on receipt of a postage stamp.

FLOWER SEEDS BY MAIL.

For the accommodation of those who reside at a distance he has prepared the following assortments, containing only the most showy varieties, and those of easy culture, which will be sent post-paid to any address in the Union at the following prices:

ASSORTMENT No. 1.—consists of twenty choice varieties of Annuals.....\$1 00
No. 2.—consists of twenty choice varieties of Biennials and Perennials.....\$1 00
No. 3.—consists of ten extra fine varieties of Annuals and Perennials, embracing many of the new and choicest in cultivation.....\$1 00
No. 4.—consists of five very choice varieties selected from Prize Flowers of English Fancies, German Carnation and Pictée Pinks, Verbenas, Truffaut's French Asters and Double Hollyhocks.....\$1 00

Purchasers remitting \$3.00 will receive the four assortments, postage free. The above collections have been favorably known in every section of the country for the past five years, and can be confidently recommended to all who wish for a fine display of Flowers at a moderate cost.

The following additional assortments (his selection) will also be sent, free of postage, at the prices annexed:

ASSORTMENT No. 5.—contains fifteen very select varieties of Green-House Seeds.....\$3 00
No. 6.—contains one hundred varieties of Annuals, Biennials and Perennials, including many new and choice varieties.....\$5 00
No. 7.—contains fifty varieties of Annuals, Biennials and Perennials.....\$2 50
No. 8.—contains twenty varieties of hardy Annuals, Biennials and Perennials, for sowing in the autumn.....\$1 00

All orders must be accompanied with the cash.—Remittances can be made in current Bills or Postage Stamps.

In addition to the above he offers a large and well selected assortment of Dahlias, Verbenas, Roses, English Carnation and Pictée Pinks, Double Hollyhocks, Petunias, Herbaceous and Bedding Plants of every description, a Catalogue of which will be published in April and sent to all applicants enclosing a postage stamp.

B. K. BLISS.

**ISABELLA AND CATAWBA GRAPE**

VINES, of proper age for forming Vineyards cultivated from the seed of the best quality which the most improved cultivation for over eighteen years, has conferred on the Croton Point Vineyards, are offered to the public. Those who may purchase, will receive such instructions for four years, as will enable them to cultivate the Grape with entire success, provided their locality is not too far north.

All communications addressed to R. T. UNDERHILL, M.D. New-York, or Croton Point, Westchester Co., N. Y., will receive attention.

Having ripened his whole crop of Isabella and Catawba Grapes in 1857, the coolest season and most difficult to ripen in 20 years, he is confirmed in the belief that a good crop of fruit can be obtained every year, by improved cultivation, pruning, &c., in most of the Northern, all of the Middle, Western and Southern States.

N. B.—To those who take sufficient to plant six acres as he directs, he will, when they commence bearing, furnish the owner with one of his Vine-dressers, whom he has instructed in his mode of cultivation, and he will do all the labor of the Vineyard, and insure the most perfect success. The only charge, a reasonable compensation for the labor.

Also, APPLE-QUINCE TREES, (which are sometimes called Orange Quince,) for sale as above.

Also for sale at his Wine and Grape Depot, No. 293 Broadway, New-York, by the case, in bottles.

PURE ISABELLA AND CATAWBA WINE,

Made by competent persons, under his own inspection, at Croton Point, from perfectly ripe grapes, suitable for medicinal, sacramental, and all other purposes where a pure wine is desirable.

R. T. UNDERHILL, M. D.

15,000 Plants of Delaware, Diana, Concord, Hartford, Prolific, and 56 other varieties of New Hardy Native Grapes, all grown from well ripened wood. Also, Lawton Blackberry and Brinkley's Orange Raspberry Plants, by the dozen, hundred or thousand. Prices reasonable.
HOAG & CRAINE,
Woodlawn Nurseries, Lockport, N. Y.

THE HARTFORD PROLIFIC GRAPE.

Vines for sale by J. MASON & CO.,
Hartford, Conn.
See advertisement in *Agriculturist* for March, p. 91.

GRAPE VINES—3,000 Isabella and Catawba Grape Vines for sale by

SIDNEY E. VAN WYCK,
Fishkill, Dutchess Co., N. Y.

JUST ARRIVED—Per steamer Bremen, from Hungary, 15,000 Grape Vine Slips, of the best varieties. For sale cheap, at JOHN KOLBER'S, 392 Broadway, N. Y. Instructions as to planting, cultivating and treating vines given.

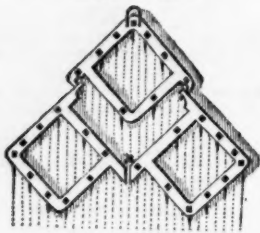
4000—FOUR THOUSAND GOOD

STRONG LAYERED CONCORD GRAPE VINES at \$40 per hundred, or \$6 per dozen.
(4000)—Four thousand ALLEN'S HARDY RASPBERRY PLANTS at \$5 per hundred, or \$40 per thousand. Cash must accompany this order.
GEO. SEYMOUR & CO.,
South Norwalk, Conn.

SEEDS—For Field and Garden use, including choice varieties of Corn, Peas, &c. For sale at Agricultural Depot, 100 Murray-st., N. Y. H. F. DIBLEY.

Universal

Ramsays



Flexion

Harrow.

This Harrow has no equal, it will do better work and more of it with the same team than any other, it has been tested with every known variety, and it has invariably triumphed, it has held the field since it received the first premium from the World's Fair held in the Crystal Palace, N. Y., in 1853, (in competition with both American and Foreign Harrows including one from England, which received the first prize \$100 at the World's Fair held in England) to the present time as the first premium awarded in 1853, will attest, viz., United States Agricultural Society (a Silver Medal) held at Richmond, Va., Ohio, Pennsylvania, Virginia and Connecticut State Fairs, also at numerous County Fairs. This Harrow is made of wrought iron with all steel teeth bolted and spiked in a substantial manner, it is made in three parts, solidly joined together, can be taken apart or put together and worked by any lad, its form allows it to adapt itself to all surfaces of ground, it does not choke, skip spots or sway from side to side, is of easy draft, wide sweep, about 8' cut, and is in all respects worthy the serious attention of all agriculturists.

Price \$20.

H. M. PLATT, Manufacturer,
No. 4 Liberty Place, New-York.

KNOX'S Steel Horse Hoes, Carrot Weed-ers, Cultivators, Plows and Harrows, in fine variety, Seed and Corn Planters, etc. For sale at Agricultural Depot, 100 Murray-st., N. Y. HENRY F. DIBBLEE.

WHEEL-BARROWS—For Gardeners—Mens' and boys' sizes; also, large and small coal and sand barrows. For sale at Agricultural Depot, 100 Murray-st., New-York. HENRY F. DIBBLEE.

Opposition for Albany.

MERCHANTS LINE OF STEAMBOATS FOR ALBANY.—Daily at 6 o'clock, P. M., from the foot of Robinson-st., in connection with the New-York Central Railroad.

The steamer **KNICKERBOCKER**, Capt. W. B. NELSON Mondays, Wednesdays and Fridays.

The steamer **HERO**, Capt. J. W. HANCOX, Tuesdays, Thursdays and Saturdays.

Tickets can be had at the office on the wharf for all the Stations on the New-York Central Railroad and principal cities in the Western States and Canada.

Baggage checked to all points on the New-York Central Railroad, free of charge.

Freight carried at reduced rates and forwarded promptly.

ELI HUNT, Agent,
Office on the wharf.

Bee Keepers—Read.

I desire to refer you to E. W. Phelps' advertisement in the *American Agriculturist* for March. Read it—then read what I have to say, as follows:

L. L. Langstroth is the original and sole inventor and patentee of the *Movable Comb Frame*, and as such, will maintain his rights. Mr. Phelps—I am personal, and mean exactly what I say—has, at different times, publicly said that the *Movable Frame* would notice for "our ignorant farmers," but they might "possibly, with great care, be used to a little advantage by the scientific apianist—who deigned to experiment without profit."

In the face of this, finding that the *Movable Frames* were endorsed by nearly every practical apianist in the United States, he (Mr. P.) applies for a patent. On what? *Answer*—Rev. L. L. Langstroth's *Movable Comb Frames*, "with a slot at the ends and sub-division of the frame—both of which arrangements I tried several years ago, and threw them aside as worthless. Bee keepers have been most grossly swindled by patent hives. I deem it necessary that every inventor should publish to the world his 'claims.' Mr. Langstroth's are as follows: CLAIM.

PATENT OFFICE REPORT OF 1852-3.

Patent No. 930—Improvement in Bee-Hives.

First—The use of a shallow chamber, substantially as described, in combination with a perforated cover, for enlarging or diminishing at will the size and number of the spare honey receptacles.

Second—The use of the movable frames, A, A, fig. 4, or their equivalents, substantially as described; also their use in combination with the shallow chamber, with or without my arrangement for spare honey receptacles.

Third—A divider, substantially as described, in combination with a movable cover, allowing the divider to be inserted from above, between the ranges of comb.

Fourth—The use of the double glass sides in a single frame, substantially as and for the purposes set forth.

Fifth—The construction of the trap for excluding moths and catching worms, so arranged as to increase or diminish at will the size of the entrance for bees, substantially in the manner and for the purposes set forth. L. L. LANGSTROTH.

Bee keepers you see what Mr. L. claims and has obtained. In reading a paper lately, on the treatment of inventors, I found the following

EXTRACTS:

"He is an omnipresent peculator, whose mind is fed by the true sun of Science. He stands ever ready to rob the inventor and to appropriate that which was the product of a superior mind." "The occurrence of piracy of inventions has become of late, truly alarming, and inventors are daily cheated."

Once for all, let no apianist purchase any hive containing movable frames, excepting only Mr. L.'s, unless he desires to pay twice for the one privilege of using frames.

Custom says: "Give us reference." I have hundreds to refer to, but will give two only. Mr. Quimby, St. Johnsville, N. Y., author of *Mysteries of Bee Keeping Explained* (price \$1, postage paid); a very valuable work, and one that should be in the hands of every bee keeper; Professor J. P. Kirtland, Ohio, Medical College, Cleveland.

I ask bee keepers to purchase Langstroth's work on the Hive and Bee, 4d edition, (now in press) 30 pages, 24 pages of elegant engravings. Price \$1 50, sent post paid.

Terms: Right to make and use, \$5; Hives from \$1 to \$10. For individual, Township, County and State Rights, in Southern and middle States, (except New-York,) apply to

P. J. MAHAN,
No. 720 Chestnut-st., Philadelphia, Pa.

AGRICULTURAL AND HORTICULTURAL IMPLEMENTS

of every description and of the latest improvements, including several new patterns of **STEEL and CAST-IRON PLOWS**, also Subsoil, Side Hill, Double Mold, and Plows for all kinds of work. Harrows, Cultivators, Seed Drills, Carls, Wagons, Wheel Barrows, Garden and Field Rollers, Garden Engines, Pumps, Garden Tools of every variety.

Also: Horse Powers and Threshing Machines, Saw Mills, Water Rans, Grain Mills, Hay and Stalk Cutters, Corn Shellers, Weather Vanes, Allen's celebrated Mower and Mower and Reaper, etc. For sale at very low prices by
R. L. ALLEN, 191 Water St., N. Y.

BUYERS OF BAGS, ROPE AND CORDAGE,

will save money by calling upon

M. VANDERHOOF.

171 West-st., corner of Murray, New-York.
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Second-hand wire, of good quality, but rusty, for sale cheap, for fencing, baling hay, grape vines or berries of any kind. Samples sent by mail to any part of the country, with the price.

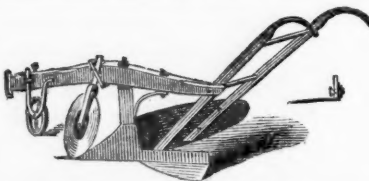
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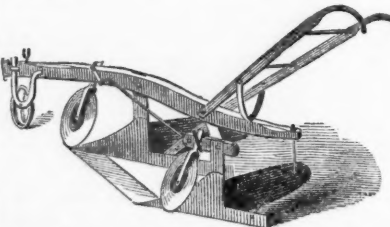
Sometimes called "Twig Cutters,"—the best article for all kinds of pruning, but especially for trimming rose and gooseberry bushes, &c. Will cut a branch $\frac{3}{4}$ inch in diameter without crushing, splitting or bruising it, and leave a clean, smooth surface. Manufactured, and sold at wholesale and retail, by

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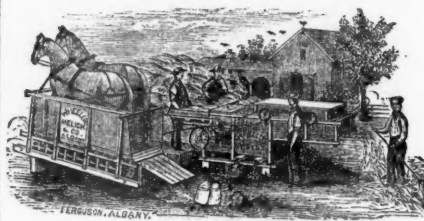
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NEW-YORK STATE AGRICULTURAL WORKS,



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AND

Improved Combined Thresher and Winnower.

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Our first Combined Thresher and Winnower was invented and made in 1851. Continued experiments resulted, in 1857, in the present

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The Machine is a model of simplicity and compactness, and is made in the most substantial manner, so that its durability equals its efficiency and perfection of work. Its capacity, under ordinary circumstances, has been from 125 to 175 bushels of Wheat, and from 200 to 300 bushels of Oats, per day. It works all other kinds of Grain equally well, and also threshes and cleans Rice and Timothy Seed. Price \$245.

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This Machine is like the preceding, but larger, and for two horses. It does double the work of the Single Machine, and is adapted to the wants of large and medium grain growers, and persons who make a business of threshing. Price \$160.

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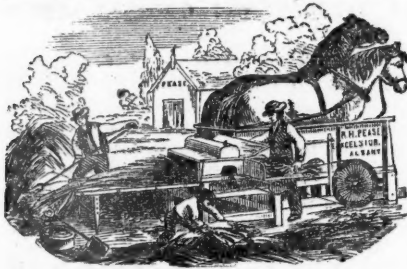
Our firm have been engaged in manufacturing this class of Agricultural Machinery 24 years, and have had longer, larger and more extended and successful experience than any other house.

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Excelsior Agricultural Works,

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CHANGEABLE RAILWAY HORSE POWERS,

Have long been acknowledged to be the best, most durable, and easiest working machines in use. They have invariably taken the First Premium at every test trial where they have been exhibited, both at the United States and State and County Fairs. Price \$116.

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This little machine is capable of hulling from 5 to 10 bushels of seed in a day, without injuring or wasting it in the least. Price \$32.

EXCELSIOR CIDER AND WINE MILL,

(Krauser's Patent.) is highly recommended as a great improvement over other portable mills. It grates the apples into a fine pomace, which fall into the tub, which is then shoved under the Press, where it can be subjected to a pressure of nearly 10 tons, thus obtaining every particle of juice. Price \$45.

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For covering, cultivating and hoeing potatoes and corn. They do away entirely with the hoe, and by tilling and cultivating all parts equally, they insure a much larger crop. Orders respectfully solicited, and promptly attended to, for any of the above-mentioned machines, which are all warranted to give satisfaction, or they can be returned at my expense. All descriptions of Agricultural Machinery built to order, in the best manner, at short notice. Catalogues sent free, by addressing

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Excelsior Ag. Works, Albany, N. Y.

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THE "TOM THUMB GRIST MILL," excels, in practical efficiency, every Mill which has ever been produced, and at less than half the price of any other. By the simple device of an adjustable regulator within the throat of the Mill, we are able to dispense with all the superfluous rattle-trap arrangements, which have hitherto proved so objectionable in similar machines. It is rigged with pulley for attachment to any kind of power, and makes meal, from any kind of grain, at the rate of five to eight bushels per hour.

Warren Clark, Secretary of the Eagle Company, at Mendota, Illinois, writes as follows concerning one now in use at their works:

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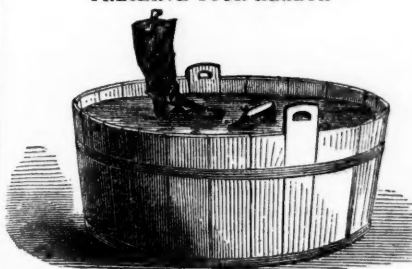
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SEDGWICK'S Improved Wheel Cultivator, for hand use, having the advantage of sliding the wheels on the axle-tree to any required distance, in addition to spacing the shares as may be necessary, thus adapting it to vegetables and strawberries. For sale at Agricultural Depot, 100 Murray-st., New-York.

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No. 4 Reade-street, New-York,
(Between Broadway and Centre.)
Agents in the country wanted to sell the above article.
N. B.—None genuine unless signed. A. BROWER.

The Lodi Manufacturing Co.

Is offered for sale by the subscribers wholesale and retail in lots to suit customers. This article has been now in use for over 17 years and is the most popular manure for corn and early vegetables, in market.

It is quick and powerful and can be put in direct contact with the seed without injury. Price \$1.50 per barrel delivered on board of vessel for any quantity over 6 barrels. \$2.00 for a single barrel.

CERTIFICATES.

The undersigned have used the Poudrette of the Lodi Manufacturing Co., for the number of years, and upon the crops set opposite to their names and can recommend it as a cheap, and most excellent fertilizer.

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J. Simpson,	Franklin,	do. 8 do.	do. do.
Hiram Farnham,	Livingston,	do. 15 do.	do. do.
J. A. Harrison,	Orange,	do. 10 do.	do. do.
B. P. Lum,	Chatham,	do. 15 do.	do. do.

A pamphlet containing certificates of practical farmers in all parts of the United States, with every information and direction for use will be mailed to any one sending their address.

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DRIED BLOOD AND WOOL, Bone Dust, Superphosphate of Lime, Plaster of Paris, Poudrette, etc. For sale in large or small quantities by
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SAWINGS, TURNINGS AND CRUSHED BONES, for sale by the manufacturers, in large or small quantities.

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CHINESE SUGAR CANE AND AFRICAN IMPHEE, at very low price.

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NEW AND CHEAP FERTILIZER.

CASTOR PUMMACE,

A VALUABLE ORGANIC (Vegetable) MANURE

Analyzed by Prof. Samuel W. Johnson, of Yale College, and commended by him.

It is Pumpace left after pressing the oil from the Castor Seed, and in India and England bears a high value as a Fertilizer.

It will be sold at \$12 to \$16 per ton, according to quantity, at which rate it is the cheapest

FERTILIZER

in the market.

Call and see the article, and also Prof. Johnson's analysis and remarks.

No charge for sacks, and in lots of 10 tons delivered free of cartage in this City.

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H. J. BAKER & BRO.,
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AMERICAN GUANO—From Jarvis Island, at the Importing Company's prices, in large or small quantities. This Guano contains about 20 per cent of Phosphate and Sulphate of Lime. All of which is available for the immediate wants of the growing crops.

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COMPANY'S GREEN SAND MARL.—This Marl, abounding in Potash, Phosphates, Sulphates and Silicates, is the cheapest and best manure for grain, grass, fruit trees and grape vines, and essential to every good farming compost; preventive of the potato disease increasing, and improving their yield and quality. It contains more Potash than the same quantity of the best unleached wood ashes. Price 7 cents per bushel. Orders for the Marl or for circulars (which contains full particulars), may be addressed to CHAS. SEARS, President, Riceville, Monmouth Co., N. J.; GEORGE W. ATWOOD, Secretary, 16 Cedar-st., New-York; or to TAPPEN TOWNSEND, Treasurer, 82 Nassau-st., New-York.

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Phosphate of Lime.....	18 to 20 per cent.
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Soluble Salts, Chlor. of Soda, etc., Sulphate of Soda, etc.....	10 "
Water and Loss.....	3 "

Every one of our customers having found our Manure what we represent it to be:—an excellent Manure adapted to every soil and crop, we recommend it with the fullest confidence to every intelligent farmer and plantation owner who wants to secure to himself a valuable crop. \$30 to \$40 lbs. per acre have frequently increased the yield of the crop fifty per cent. Testimonials and Pamphlets to be had at the Office. Orders to be sent to HENRY RAEDER, Agent, 53 Beaver Street, New York, or Mr. R. L. ALLEN, 191 Water-st., N. Y.

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To Farmers and Dealers in Guano.

This Guano, from Jarvis Island, in the Pacific Ocean, containing 20 per cent of phosphate and sulphate of lime, and the most valuable fertilizer known, is offered for sale in quantities, large or small, at about two-thirds the price of Peruvian Guano. For full information and particulars, address
C. S. MARSHALL, Pres. Am. Guano Co.,
66 William-st., New-York.

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Special attention is directed to the NATIONAL FERTILIZER, prepared of Green Sand Marl, Animal Bone and Fish. Manufactured for application according to the analyses of vegetables, plants, and all cereals, cotton, sugar-cane, and tobacco. Unlike Guano, it imports permanent fertility to the soil. Delivered in New York at \$35 per ton of 2000 lbs. Orders must state the crop for which it is wanted. For descriptive Circulars, with Analysis, address JOS. C. CANNING, 37 Fulton Street, N. Y.

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"HOYT'S" SUPERPHOSPHATE OF LIME, BONE DUST, PLASTER, POUDRETTE, TAPEU, etc.

The above fertilizers warranted pure, and sold at the lowest market price.

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DRIED BLOOD AND WOOL MANURE.

—The best and cheapest manure in use—an active manure for the present crop, and permanent in its effects on the land. Price \$35 for 2000 lbs. in bris. 200 lbs. For sale by
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Seed Distribution Closed.

We announced in our last number that our general Distribution of Seeds would close with the month of March. The applications from very distant subscribers still arriving, will be filled. New subscribers received during April and May will be allowed to select the usual 3 to 5 packages from such seeds as we have remaining, provided they furnish the customary prepared, post-paid, envelopes. (For the list of seeds yet on hand, see below.)

SPECIAL SEED PREMIUM.

[The ten general Premiums offered in our January, February and March numbers for new subscribers to this volume are still continued, and persons may yet fill out their old lists or make up new ones for those premiums. As an additional inducement to persons soliciting new subscribers at this season we now add another premium (XI) which will be given for new subscribers obtained in April or May, when the same are not counted in one of the other 10 premiums.]

PREMIUM XI.—Any person procuring and forwarding (after April 1st) new subscribers to the *Agriculturist* for Vol. 18, and \$1 for each) may select from the list of seeds below as many packages as will go under four 3-cent postage stamps for each new name and we will send the seeds post-paid by ourselves. **N. B.**—If the new subscribers are taken at club rates, either as additions to old clubs, or in new clubs, the receiver of the premium will need to send the 12 cents postage to be paid on each premium package. (We only pay the postage when the full price is paid.)

It will be seen that from 4 to 20 parcels of seed may be chosen for each new name—according to the kind desired. Of the flower seeds about 5 packages of seed will go under one stamp. In addition to the premium parcel, given to the procurer of a name, the new subscriber will himself be entitled to select three to five parcels by sending prepared, pre-paid envelopes as noted above. Several of the seeds in the following list are particularly choice or rare, and on this account could not be offered in our General Distribution. We shall probably have enough to meet all the demands made for this special premium.

Field Seeds.

- 1—White Sugar Beet—Single or double packages, as desired, requiring one or two 3-cent postage stamps.
- 2—King Philip Corn—Single, double, or triple packages, as desired, requiring one, two, or three 3-cent stamps.
- 3—Stowell's Sweet Corn—Same packages as No. 1.
- 4—White Poland Oats—Same packages as No. 2.
- 5—Chinese Sugar Cane—Any subscriber may select any amount, from half an ounce up to a full pound of this, by providing for the transportation by mail, or express, or otherwise. If to go by mail, a 3-cent stamp is required for each half ounce.
- 6—Ashcroft's Swedish Turnip—Half of 3-cent stamp.
- 6S—Purple-top Scotch, or Bullock Turnip—do.
- 69—Green-top Scotch, or Bullock Turnip—do.
- 70—Waite's London purple-top Swede Turnip—do.
- 93—Hungarian Grass—One or two 3-cent stamps.
- 94—Crystal Flint or Hominy Corn—One 3-cent stamp.

Vegetable or Garden Seeds.

- 8—Daniel O'Rourke Pea—Packages same as No. 1.
- 9—Champion of England Pea—One 3-cent stamp.
- 96—Champion of Scotland Pea—do.
- 57—Eugenie Pea—do.
- 58—Napoleon Pea—do.
- 59—King of the Marrow Pea—do.
- 60—Blue Sickle Pea—do.
- 12—Green Mohl Rabi—One-third of a 3-cent stamp.
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